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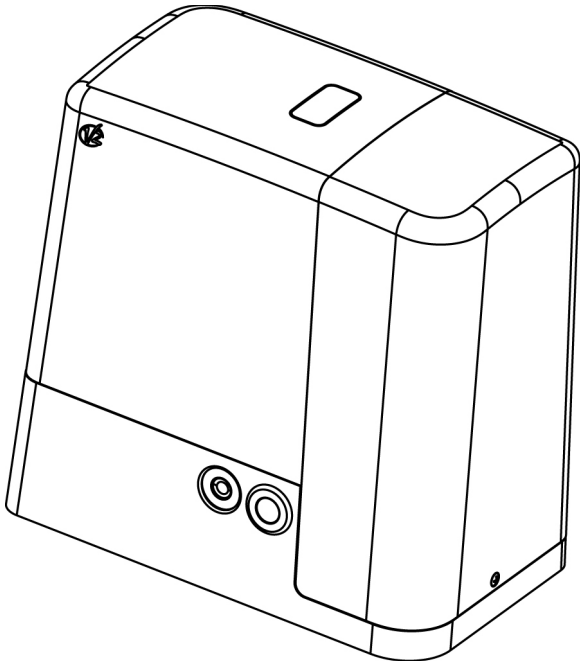
IL n. 284-1
EDIZ. 14/09/2010

FORTECO

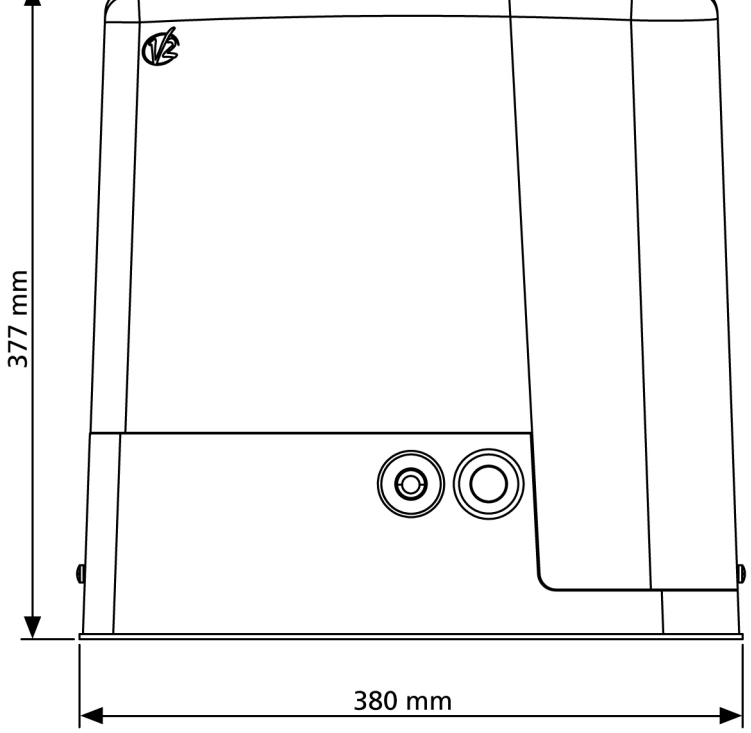


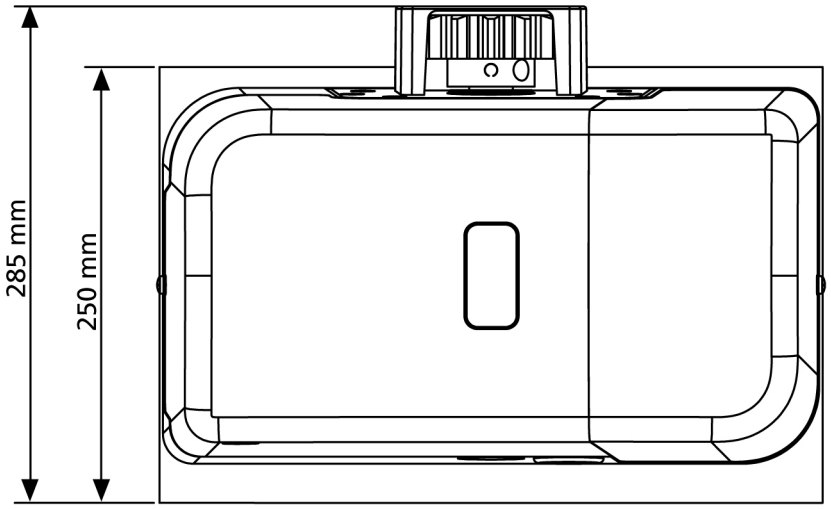
I **ATTUATORE ELETTROMECCANICO 230V / 120V IRREVERSIBILE A CREMAGLIERA PER CANCELLI SCORREVOLI FINO A 2200 KG DI PESO**

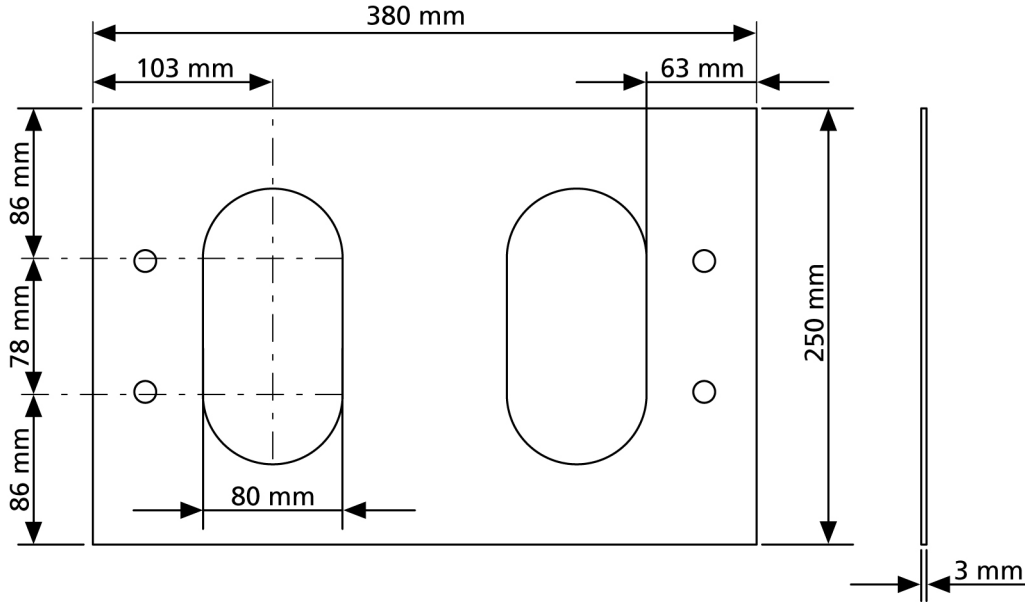
GB **230V / 120V ELECTRO-MECHANICAL IRREVERSIBLE RACK ACTUATOR FOR SLIDING GATES UP TO 2200 KG**

F **OPERATEUR ELECTROMECANIQUE 230V / 120V IRREVERSIBLE A CREMAILLERE POUR PORTAILS COULISSANTS JUSQU'A 2200 KG DE POIDS**

E **MOTOR ELECTROMECANICO 230V/120V IRREVERSIBLES A CREMALLERA PARA PUERTAS CORREDERAS HASTA 2200 KG DE PESO**


377 mm
380 mm


285 mm
250 mm


380 mm
103 mm
63 mm
86 mm
78 mm
86 mm
80 mm
250 mm
3 mm

INDEX

IMPORTANT REMARKS 28
CONFORMITY TO REGULATIONS 28
PARTS LIST 29
TECHNICAL SPECIFICATIONS 29
INSTALLATION OF THE MOTOR 30
MOTOR OVERRIDING SYSTEM 32
INSTALLATION LAYOUT 32
DESCRIPTION OF THE CONTROL UNIT 33
INSTALLATION 33
POWER SUPPLY 33
BLINKER 33
COURTESY LIGHT 33
PHOTOCELLS 34
SAFETY RIBBONS 34
STOP 35
ACTIVATION INPUTS 35
PLUG IN RECEIVER 35
EXTERNAL AERIAL 36
ADI INTERFACE 36
ELECTRIC CONNECTIONS TABLE 36
CONTROL PANEL 38
USE OF THE PROGRAMMING WHEEL 38
QUICK CONFIGURATION 38
LOADING OF DEFAULT PARAMETERS 39
SELF-LEARNING OF WORKING TIMES 39
OBSTACLE SENSOR OPERATION 40
CONTROL UNIT CONFIGURATION 40
READING OF CYCLE COUNTER 49
PD18 FUNCTION TABLE 50
OPERATION DEFECTS 52

For any installation problems please contact
V2 S.p.A. TEL. (+39) 01 72 81 24 11

V2 S.p.A. has the right to modify the product without previous notice; it also declines any responsibility to damage or injury to people or things caused by improper use or wrong installation.

⚠ **Please read this instruction manual very carefully before installing and programming your control unit.**

- This instruction manual is only for qualified technicians, who specialize in installations and automations.
- The contents of this instruction manual do not concern the end user.
- Every programming and/or every maintenance service should be done only by qualified technicians.

AUTOMATION MUST BE IMPLEMENTED IN COMPLIANCE WITH THE EUROPEAN REGULATIONS IN FORCE:

EN 60204-1 (Machinery safety. electrical equipment of machines, part 1: general rules)
EN 12445 (Safe use of automated locking devices, test methods)
EN 12453 (Safe use of automated locking devices, requirements)

- The installer must provide for a device (es. magnetotermical switch) ensuring the omnipolar sectioning of the equipment from the power supply.
  The standards require a separation of the contacts of at least 3 mm in each pole (EN 60335-1).

- The plastic case has an IP55 insulation; to connect flexible or rigid pipes, use pipefittings having the same insulation level.

- Installation requires mechanical and electrical skills, therefore it shall be carried out by qualified personnel only, who can issue the Compliance Certificate concerning the whole installation (Machine Directive 2006/42/CEE, Annex IIA).

- The automated vehicular gates shall comply with the following rules: EN 13241-1, EN 12453, EN 12445 as well as any local rule in force.

- Also the automation upstream electric system shall comply with the laws and rules in force and be carried out workmanlike.

- The door thrust force adjustment shall be measured by means of a proper tool and adjusted according to the max. limits, which EN 12453 allows.

- We recommend to make use of an emergency button, to be installed by the automation (connected to the control unit STOP input) so that the gate may be immediately stopped in case of danger.

- The appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

- Children being supervised do not play with the appliance.

which can be consulted at the following web site:
www.v2home.com

EC DECLARATION OF INCORPORATION FOR PARTLY COMPLETED MACHINERY
(Directive 2006/42/EC, Annex II-B)

The manufacturer V2 S.p.A., headquarters in Corso Principi di Piemonte 65, 12035, Racconigi (CN), Italia

Under its sole responsibility hereby declares that:
the partly completed machinery model(s):
FORTECO1200-230V
FORTECO1800-230V
FORTECO2200-230V
FORTECO1200-120V

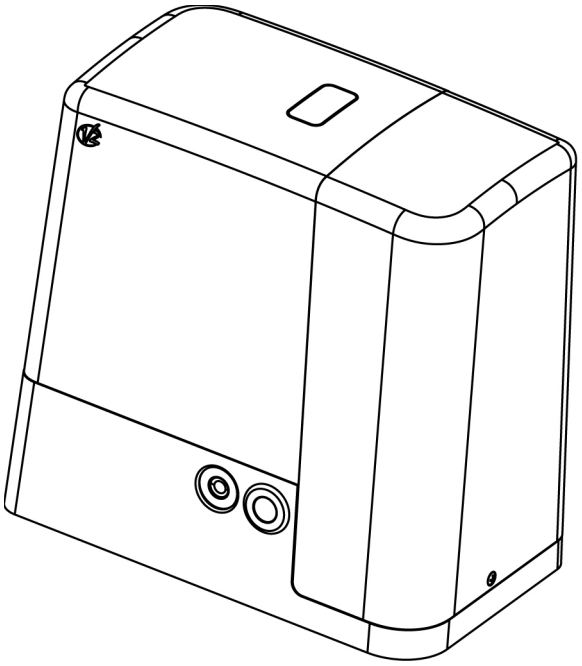
Identification number and year of manufacturing:
typed on nameplate
Description: electromechanical actuator for gates

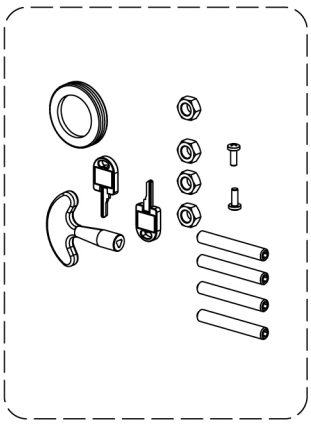
- is intended to be installed on gates, to create a machine according to the provisions of the Directive 2006/42/EC. The machinery must not be put into service until the final machinery into which it has to be incorporated has been declared in conformity with the provisions of the Directive 2006/42/EC (annex II-A).
- is compliant with the applicable essential safety requirements of the following Directives:
  Machinery Directive 2006/42/EC (annex I, chapter 1)
  Low Voltage Directive 2006/95/EC
  Electromagnetic Compatibility Directive 2004/108/EC
  Radio Directive 99/05/EC

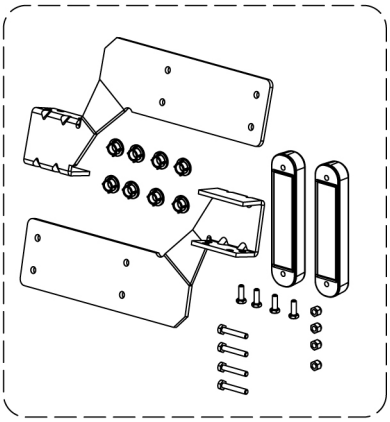
The relevant technical documentation is available at the national authorities' request after justifiable request to:
V2 S.p.A., Corso Principi di Piemonte 65
12035, Racconigi (CN), Italy

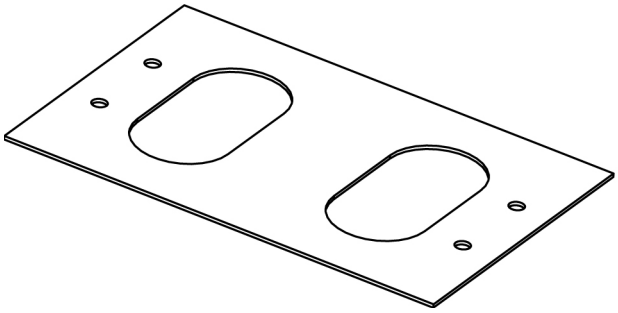
The person empowered to draw up the declaration and to provide the technical documentation:
Cosimo De Falco
Legal representative of V2 S.p.A.
Racconigi, 11th January 2010

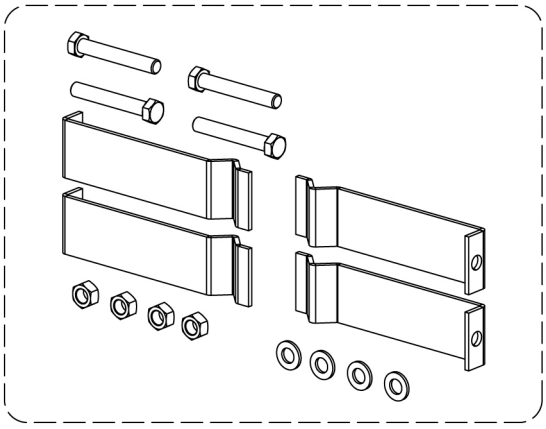
	1200-230V	1800-230V	2200-230V	2200-120V
Gate maximum weight	1200 Kg	1800 Kg	2200 Kg	2200 Kg
Power supply	230VAC / 50Hz	230VAC / 50Hz	230VAC / 50Hz	120VAC / 60Hz
Maximum power	600 W	650 W	800 W	800 W
Idling current	1.9 A	1,4 A	2 A	4,5 A
Full load current	3 A	3,2 A	4 A	10 A
Running capacitor	12 µF	18 µF	18 µF	60 µF
Start off capacitor	12 µF	14 µF	14 µF	25 µF
Gate maximum speed	0.16 m/s	0.16 m/s	0.16 m/s	0,18 m/s
Maximum thrust	900 N	1300 N	1550 N	1550 N
Duty cicle (ambient temperature +55°C)	35%	35%	35%	30 %
Pinion	M4 - Z18	M4 - Z18	M6 - Z12	M6 - Z12
Operation temperature	-20°C ÷ +55°C	-20°C ÷ +55°C	-20°C ÷ +55°C	-20°C ÷ +55°C
Weight	16 Kg	18 Kg	18 Kg	18 Kg
Protection	IP44	IP44	IP44	IP44
Maximum load on 24 VACattachments	10W	10W	10W	10W
Protection fuses	F1 = 10A	F1 = 10A	F1 = 10A	F1 = 16A











PREPARATORY STEPS

CAREFULLY OBSERVE EUROPEAN REGULATIONS EN12445 AND EN12453 (WHICH REPLACE UNI 8612).

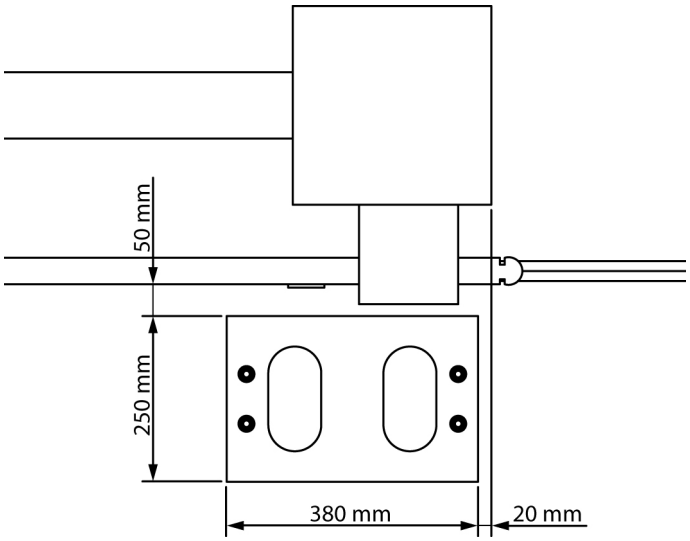
Always check the following:

- Your gate should have a strong and suitable build; no wickets should be present on the sliding gate.
- The sliding gate should not tilt excessively during its entire run.
- The gate should be able to slide freely on its guiding surface without an excessive friction.
- Install both closing and opening limit switches, in order to prevent the gate going off the guiding surface.
- Remove any manual locks.
- Bring power cable ducts near the bottom of the gate (diameter 20 / 30 mm) and of the external devices (photocells, flasher, key selector).

POSITIONING OF THE MOTOR

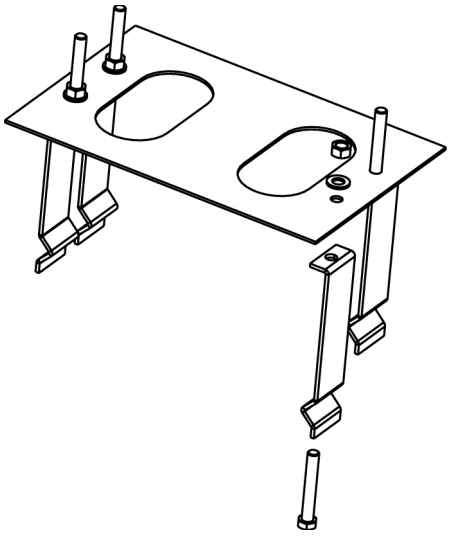
To fix FORTECO, follow the instructions below:

1. use the measurements indicated in the drawing for the foundations

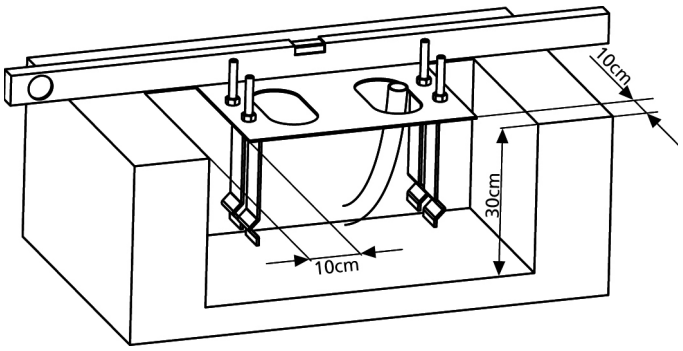


2. Arrange for one or two pipes for the passage of electric cables

3. Assemble the 4 clamps on the anchoring plate and fix them with the 4 bolts issued with the motor



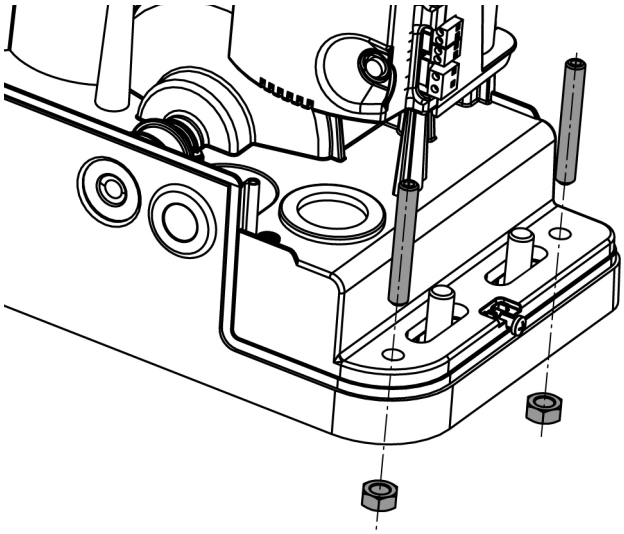
levelled surface and parallel to the gate



5. Wait for the complete setting of the concrete

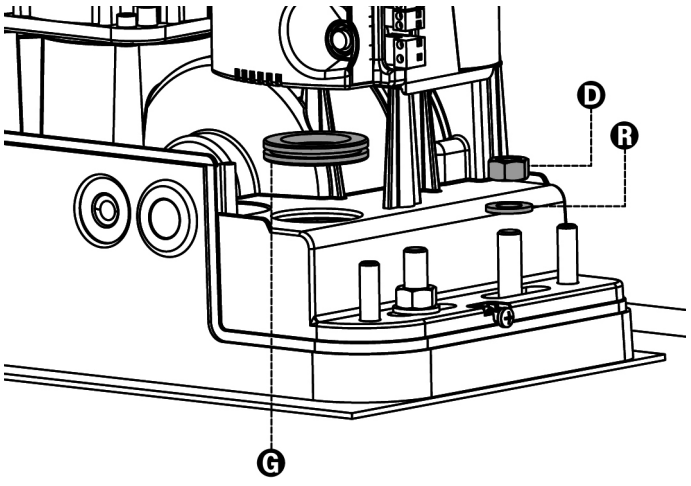
6. Unscrew the bolts fixing the base to the clamps and put the motor on the plate

7. Insert the 4 grains with their nuts in the proper place. Adjust the 4 grains to make the motor be perfectly levelled



8. Control that the motor is perfectly parallel to the gate, then insert the 4 washers **R** and lightly screw the 4 bolts **D**

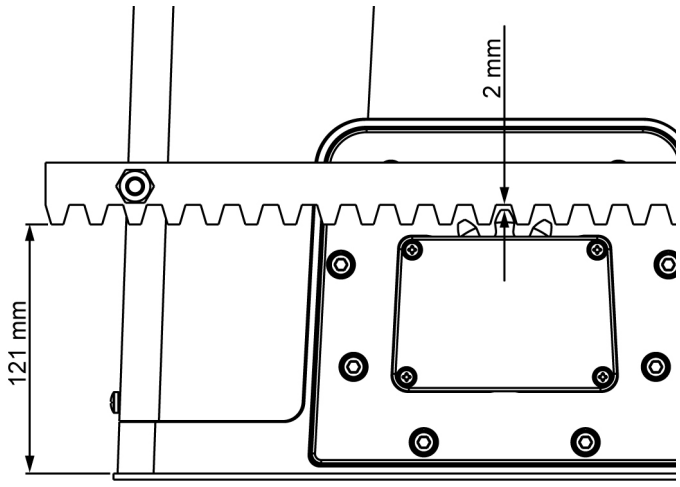
WARNING: put the washer **G** into the hole for the passing of the cables as shown in the picture. Pierce the washer to let the cable to be connected to the control unit pass, paying attention to the dimensions in order to avoid the entrance of insects and other small animals.



Release the motor and turn the gate completely open.
Fix all the rack elements to the gate, making sure that they stand at the same height than the motor pinion.

The rack MUST BE positioned 1 or 2 mm over the pinion of the motor all the gate length.

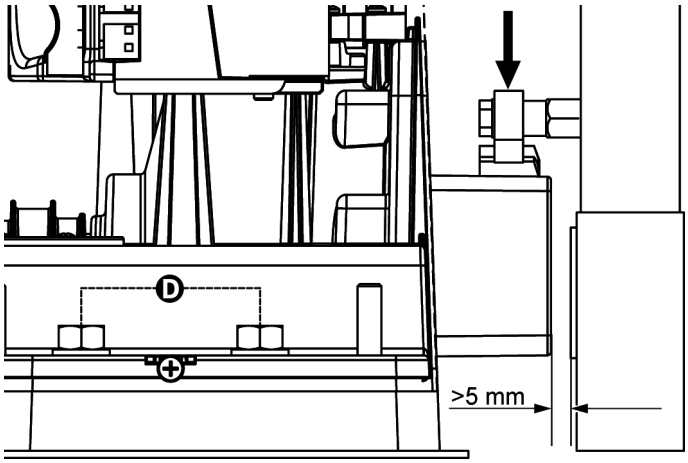
WARNING: If the gate is very heavy we suggest to use an M4 22x22 rack (code. 162324)



Check the following points:

1. the motor must be on a levelled surface and perfectly parallel to the gate
2. the distance between pinion and rack must be 1 or 2 mm. If needed, adjust the 4 grains
3. the rack must be trued up with the pinion of the motor
4. the minimum distance between the maximum overall of the gate and the case of the pinion of the motor must be of at least 5 mm

Check the above indicated conditions and proceed fixing the 4 bolts D anchoring the motor to the plate.



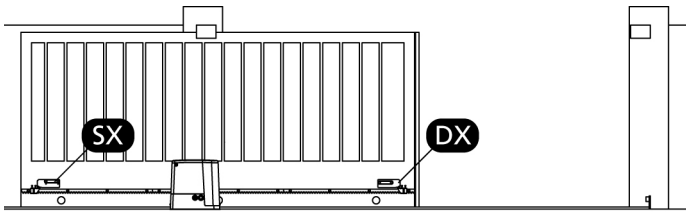
INSTALLING THE MAGNETIC LIMIT SWITCHES

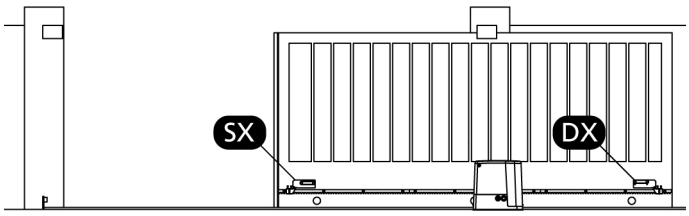
Install the supplied magnet holder on the rack in a way that, in the opening and closing limit positions, the magnet be positioned next to the magnetic sensor behind the hood (as near as possible to the hood).
The supplied magnets have been colored differently in order to be distinguished from each other:

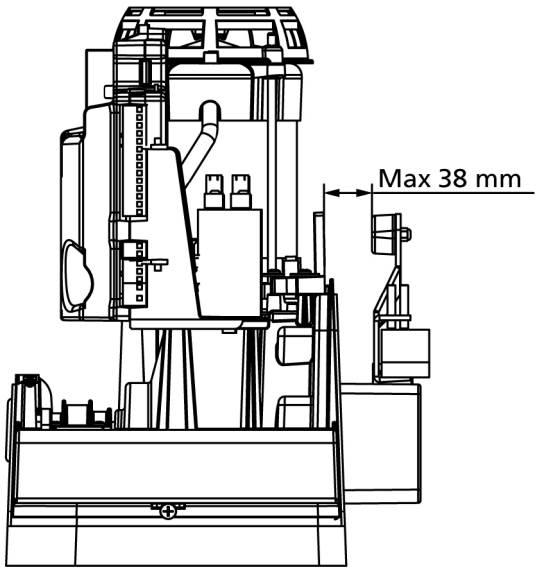
BLUE MAGNET = RIGHT LIMIT SWITCH (DX)
RED MAGNET = LEFT LIMIT SWITCH (SX)

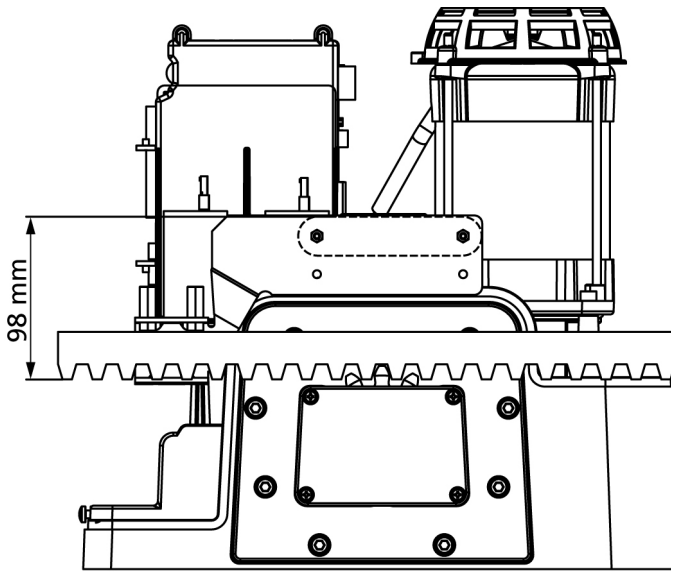
The type of limit switch (RIGHT/LEFT) depends on the position of the limit switch towards the motor, independently from the opening sense.

WARNING: Once checked the proper working of the system, we suggest to weld the end-of-stroke brackets on the rack







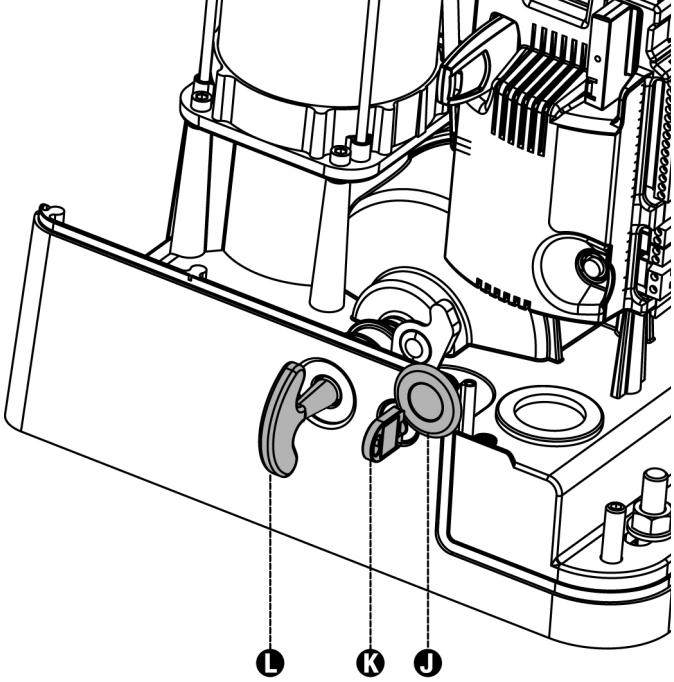


In case of absence of current, the gate can be released by operating on the motor:

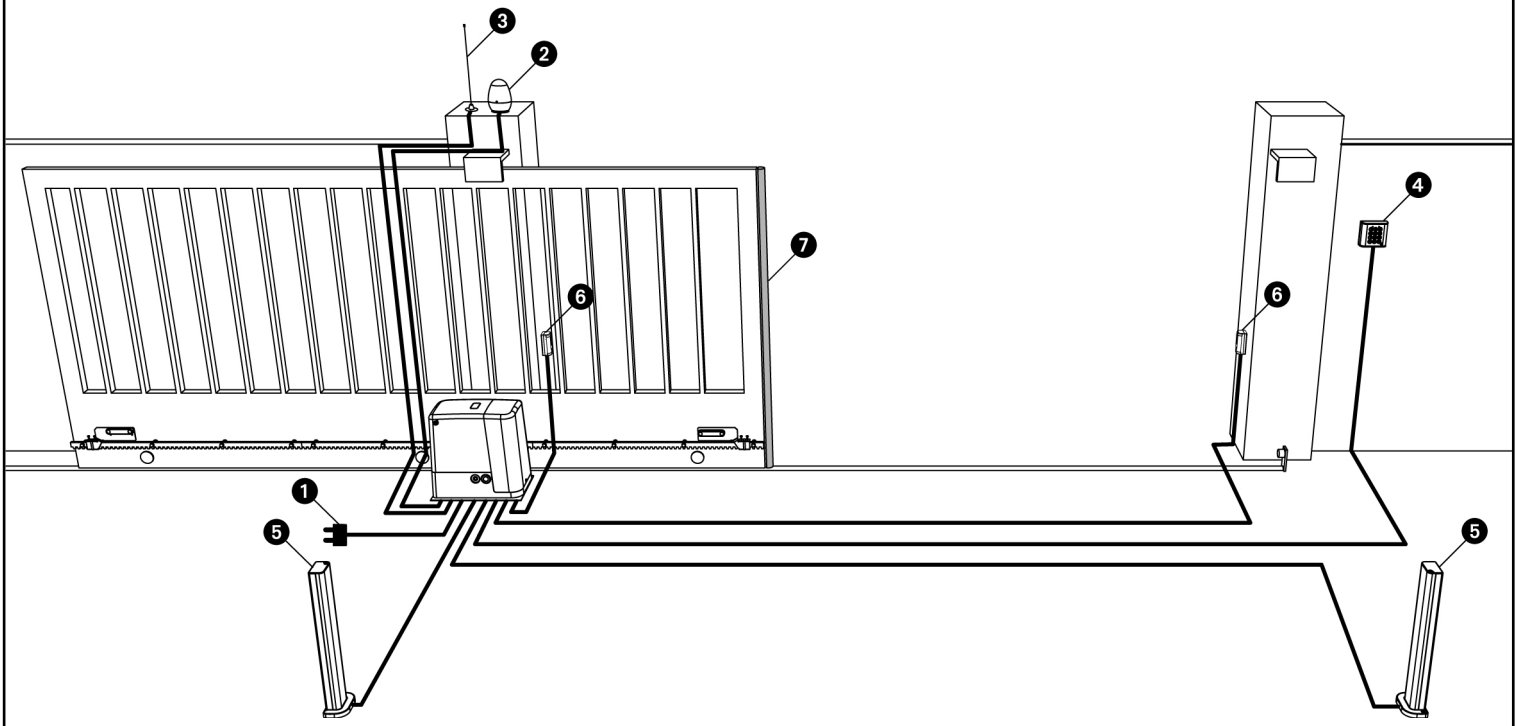
1. Open the hatch of the lock **J** in front of the motor
2. Insert the key **K** in the lock and turn clockwise to open the hatch of the release on the side
3. Insert the key **L** into the hole and turn clockwise until reached the limit switch

To restore the automation, proceed as follows:

1. turn the key **L** anticlockwise until reached the limit switch, then draw it out
2. turn the key **K** anticlockwise closing the hatch of the lock, then draw it out
3. Close the lock with the hatch **J**



INSTALLATION LAYOUT



WARNING: ALL THE CABLES USED FOR THE INSTALLATION MUST BE MARKED WITH T100°C.

❶ Power supply	cable 3 x 1,5 mm²
❷ Blinker	cable 2 x 1,5 mm²
❸ External Aerial	cable RG-58
❹ Digital or key selector	cable 3 x 0,5 mm²

❺ Internal Photocellules	cable 4 x 0,5 mm² (RX) cable 2 x 0,5 mm² (TX)
❻ External Photocellules	
❼ Safety edge (EN 12978)	-

UNIT

The digital control unit **PD18** is an innovative V2 S.p.A. product that guarantees a safe and reliable automation of sliding gates. The **PD18** has been designed to realize a product that meets all kind of requirements, with a highly versatile control unit that satisfies all the necessary requirements for a functional and efficient installation.

PD18 is provided with a display that, not only makes programming simple, but also allows a continuous monitoring of the input statuses; in addition, thanks to a menu structure, the working schedule and the operation logic can be set easily.

In compliance with the European standards concerning electrical safety and electromagnetic compatibility (EN 60335-1, EN 50081-1 and EN 50082-1) it has been equipped with the low voltage circuit total electric insulation (motors included) from the network voltage.

Other characteristics:

- Automatic control for the null current relay switch.
- Power adjustment with wave shutting.
- Obstacle detection through monitoring of the current on the motor (amperometric)
- Automatic learning of the operation time.
- Tests for safety devices (photocells, safety ribbons and triacs) before each opening.
- Deactivation of safety inputs through the configuration menu: no jumper is required for terminals concerning safety devices that have not been installed, yet. You will only need to disable this function from its relevant menu.

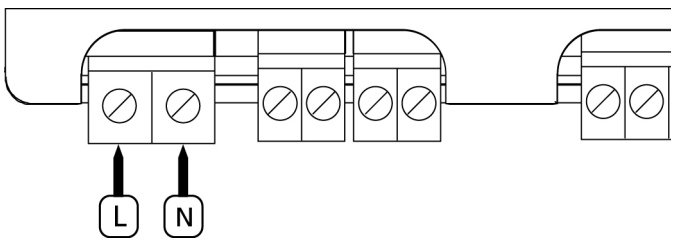
INSTALLATION

Installation of control unit and safety devices must be carried out with power disconnected.

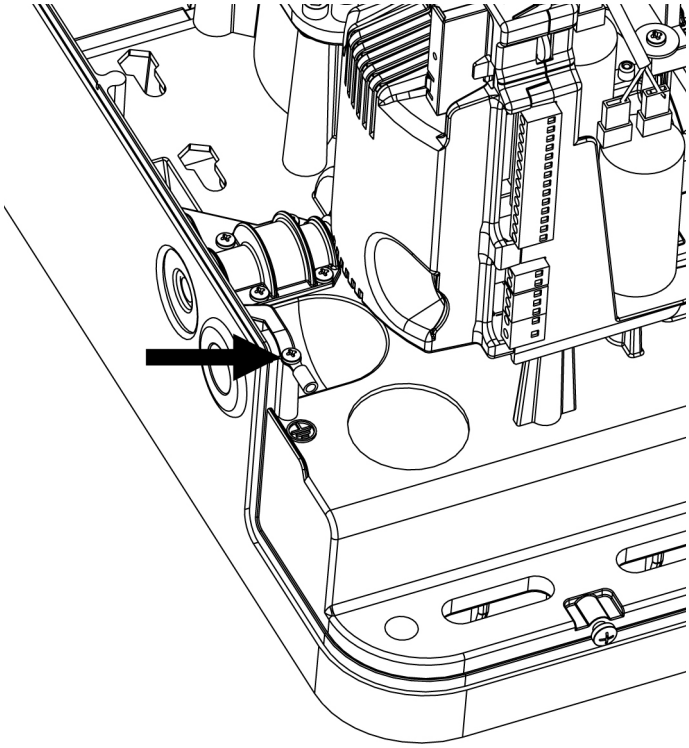
POWER SUPPLY

The control unit must be fed by a 230V - 50Hz (120V - 50/60Hz for the model **PD18-120V**) electric line, protected by a differential magnetothermal switch complying with the law provisions in force.

Connect power supply cables to terminals **L** and **N** of **PD18** control unit.



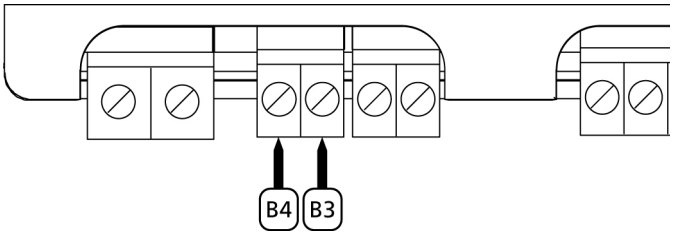
Use the eyelet provided.



BLINKER

PD18 control unit provides for a 230V 40W (120V - 40W for model **PD18-120V**) blinker equipped with intermittence inside.

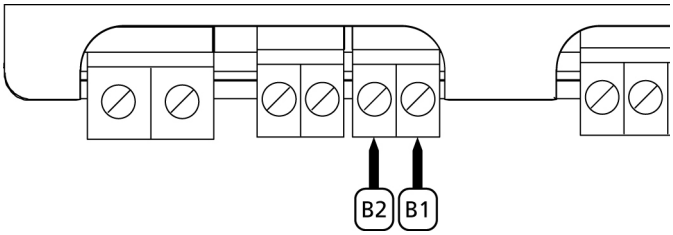
Connect blinker cables to terminals **B3** and **B4** of the control unit.



COURTESY LIGHTS

Thanks to the output COURTESY LIGHT the control unit allows the connection of an electric appliance (e.g. courtesy light or garden lights), controlled automatically or by means of the special transmitter key.
The output COURTESY LIGHT is a simple N.O. contact with no power supply.

Connect the cables to terminals **B1** and **B2**.



The control unit considers two kinds of photocells, depending on the terminal to which they are connected:

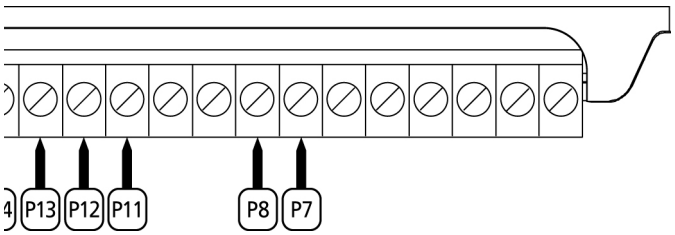
- **Photocell 1:** that is to say, photocells installed on the gate inner side, which are active both during the opening and the closing phase. When photocells 1 operate, the control unit stops the gate; as soon as the photocell beam is free, the control unit will open the gate completely.

⚠ **WARNING:** Type 1 photocells must be installed so that they completely cover the opening area of the gate.

- **Photocell 2:** that is to say, photocells installed on the external gate side and which are active during the closing phase only. When photocells 2 operate, the control unit opens the gate immediately, without waiting for release.

PD18 control unit supplies a 24VAC power supply to photocells and it can perform a photocell operation test before starting the gate opening phase. Photocell power terminals are protected by an electronic fuse that stops current in case of overload.

- Connect power supply cables of photocells transmitter between terminals **P13** and **P14** of the control unit.
- Connect power supply cables of photocells receiver between terminals **P12** and **P13** of the control unit.
- Connect receiver output of photocells 1 between terminals **P7** and **P11** of the control unit and receiver output of photocells 2 between terminals **P8** and **P11** of the control unit.
  Use outputs having normally closed contact.



⚠ **WARNING:**

- if several couples of same kind photocells are mounted, their outputs must be connected in series.
- In case of reflection photocells, power supply must be connected to terminals **P13** and **P14** of the control unit to carry out the operation test.

The control unit considers two kinds of safety ribbons, depending on the terminal to which they are connected:

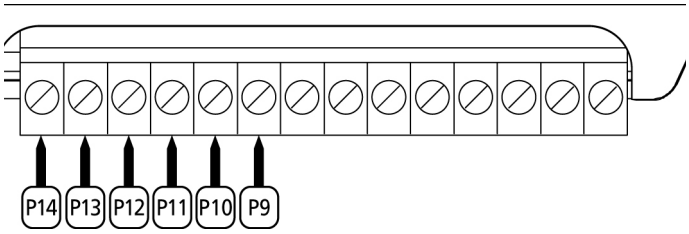
- **Type 1 (fixed):** they are mounted on walls or on other fixed obstacles that are approached by the gate doors during the opening phase. When type 1 safety ribbons operate during the gate opening phase, the control unit will close the doors for 3 seconds, then it stands still; when type 1 safety ribbons operate during the gate closing phase, the control unit will stand still immediately. The direction of the gate at next command of START or PEDESTRIAN START depends upon the parameter STOP (it inverts or continues the motion).
  If the input STOP is disabled, the command makes the motion continue in the same direction.

- **Type 2 (mobile):** they are mounted to the door ends.
  When type 2 safety ribbons operate during the gate opening phase, the control unit will stand still immediately; when type 2 safety ribbons operate during the gate closing, the control unit will open the doors for 3 seconds, then it will stand still. The direction of the gate at next command of START or PEDESTRIAN START depends upon the parameter STOP (it inverts or continues the motion). If the input STOP is disabled, the command makes the motion continue in the same direction.

Both the input can manage the classic safety edge with n.c. contact and the conductive rubber safety edge with 8,2 kohm nominal resistance.

In addition, the V2 wireless edge system may be managed (see the instructions provided with the device).

Connect type 1 safety ribbons cables between terminals **P9** and **P11** of the control unit.
Connect type 2 safety ribbons cables between terminals **P10** and **P11** of the control unit.



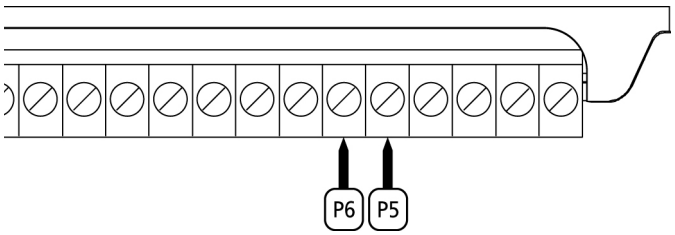
In order to meet the requirements of the EN12978 rules, it is necessary to install safety edges controlled by a control unit continuously checking the proper working. If using control units suited to the test by power outage, connect the power supply cables of the control unit between terminals **P13** and **P14** of the control unit.
Otherwise, connect them between terminals **P12** and **P13**.

⚠ **WARNING:**

- Make use of safety ribbons having outputs with normally close contact.
- Outputs of same kind safety ribbons must be connected in series.

immediate gate stop when activated. This switch must have a normally close contact that will get open in case of operation. In case the stop switch is operated while the gate is open, the automatic closing function will always be disabled. To close the gate again, you will need a start command (if the start function in pause is disabled, it will be temporarily enabled to allow the gate release).

Connect the stop switch cables between terminal **P5** and **P6** of the control unit.



The stop switch function can be activated by means of a remote control stored on channel 3 (see relevant instructions of MR1 receiver) The command STOP from remote is operative also if the input STOP of the terminal board is disabled.

ACTIVATION INPUTS

PD18 control unit is equipped with two activation inputs, whose operation depends on the programmed operation modes (see **Strt** item of programming menu):

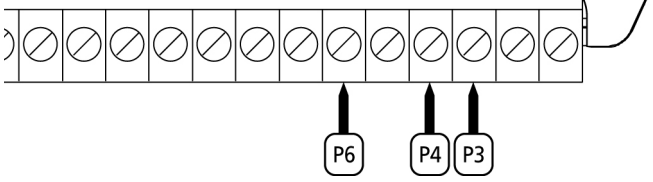
- **Standard mode:** a command being on the first input will cause the complete opening of the gate (start); a command being on the second input will cause the partial opening of the gate (pedestrian start).

- **Open/Close command and manned operation:** a command on the first input always controls the gate opening, while a command on the second input always controls the gate closing.
  In Open/Close mode, there is an impulse command, that is to say that an impulse will cause the complete gate opening or closing.
  In manned operation, there is a monostable command, that is to say, the gate will be opened or closed as long as the contact is closed and it will immediately stop as the contact is open.

- **Timer mode:** it is similar to the standard mode but the gate stays open (completely or partially) while the contact is closed on input; as soon as the contact is open the pause time count down will start, after which the gate will be closed again. This function allows programming the gate opening time during the day, by making use of an external timer. Automatic closing must be enabled.

In all modes, inputs must be connected to devices having normally open contacts.

Connect cables of device controlling the first input between terminals **P3** and **P6** of the control unit.
Connect cables of device controlling the second input between terminals **P4** and **P6** of the control unit.



The first input function can also be activated by pressing UP key outside the programming menu or by means of a remote control stored on channel 1 (see relevant instructions of MR1 receiver).

The second input function can also be activated by pressing DOWN key outside the programming menu or by means of a remote control stored on channel 2.

PLUG IN RECEIVER

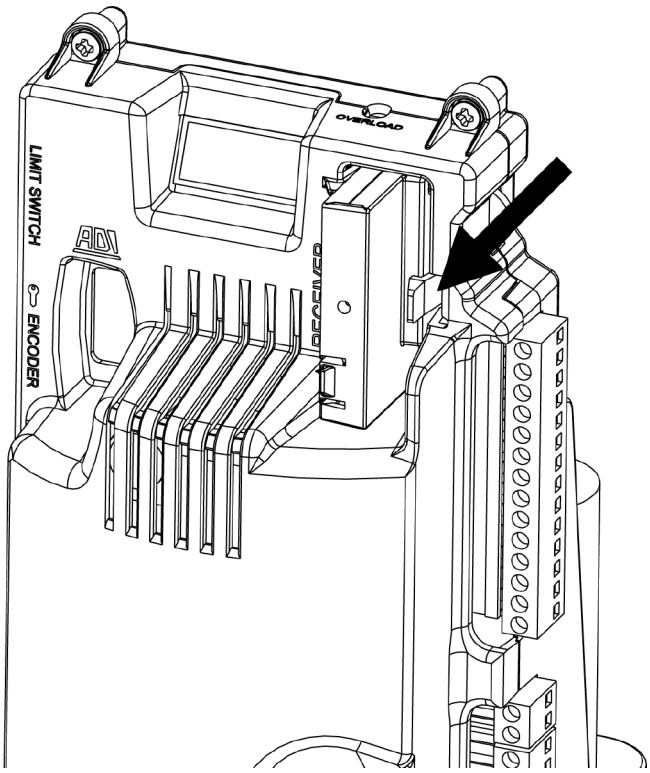
PD18 control unit is suitable for plugging in a Personal Pass MR1 receiver having a high-sensitivity super-heterodyne architecture.

⚠ **WARNING:** it is necessary to turn off the control unit power before doing the operations mentioned here below. Pay attention to the way you connect the removable modules.

MR1 module receiver is provided with 4 channels and each of them is suitable for a command of **PD18** control unit:
CHANNEL 1 → START
CHANNEL 2 → PEDESTRIAN START
CHANNEL 3 → STOP
CHANNEL 4 → COURTESY LIGHT

⚠ **WARNING:** Before programming 4 channels and function logics read carefully the instructions of MR1.

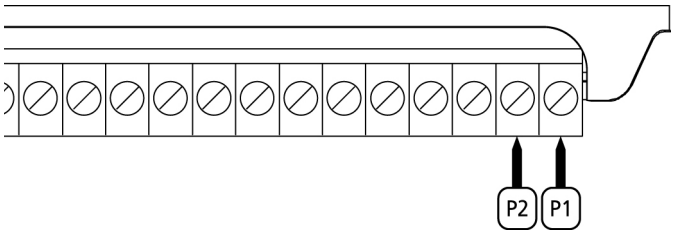
⚠ **WARNING: Plug the MR1 receiver in, checking that the safety hook intervene keeping the receiver.**



ENGLISH

order to guarantee the maximal range.

Connect the antenna hot pole to terminal **P1** of the control unit and the braiding to terminal **P2**.

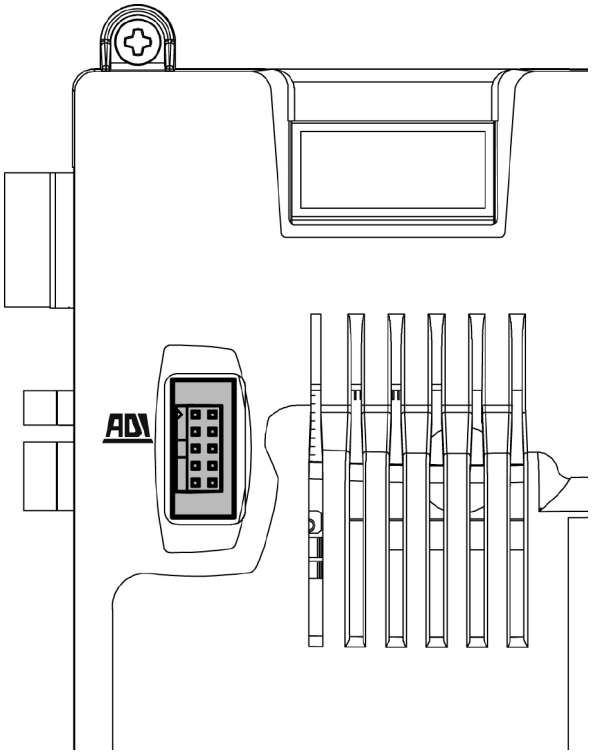


INTERFACE

The ADI (Additional Devices Interface) interface of the control unit **PD18** allows the connection to V2 optional modules.

Refer to V2 catalogue or to the technical sheets to see which optional modules with ADI interface are available for this control unit.

WARNING: Please read the instructions of each single module to install the optional modules.



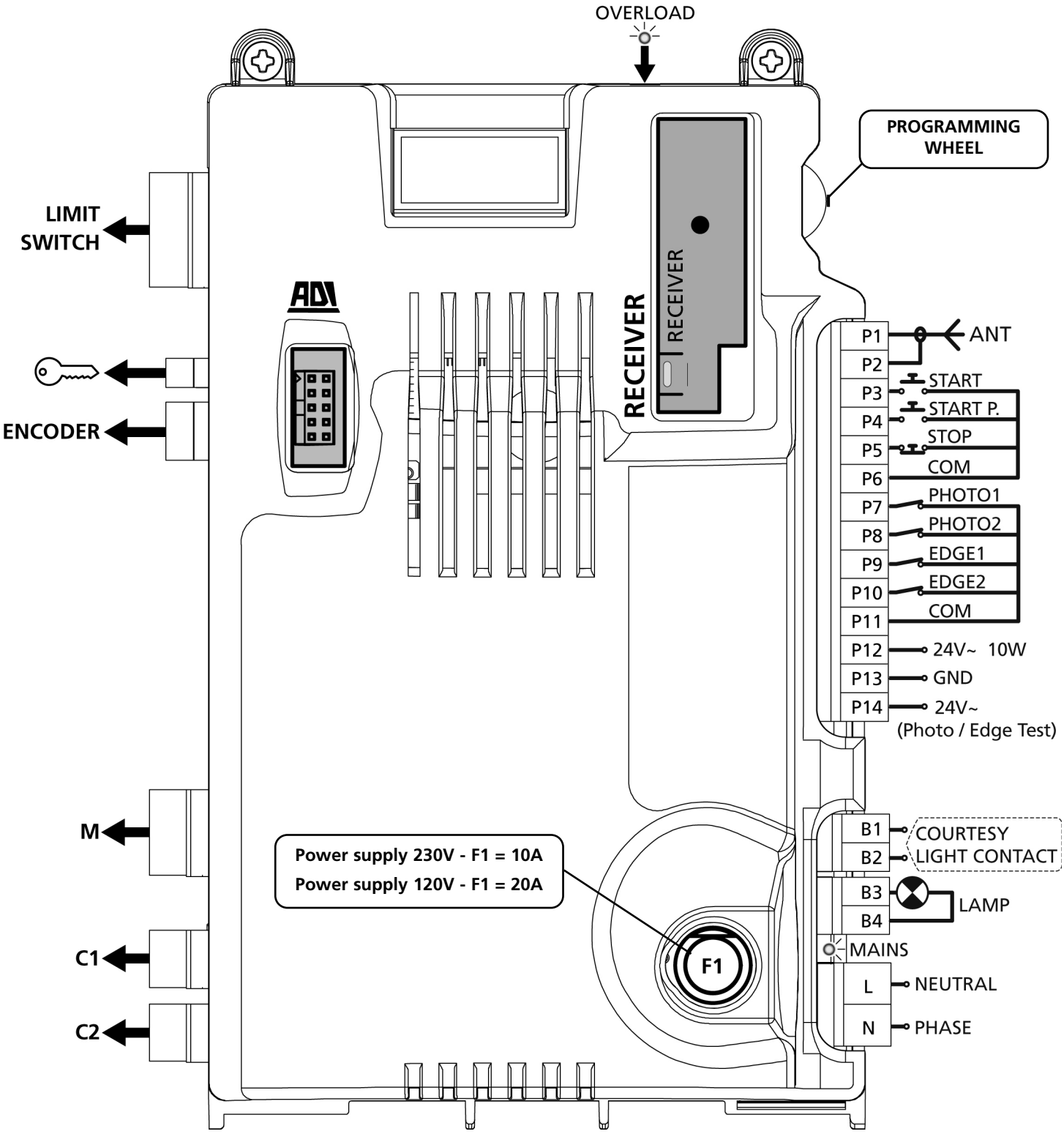
P1	Antenna
P2	Antenna shield
P3	Opening control for the connection of control devices with N.O. contact
P4	Opening controls for pedestrian access for the connection of control devices with N.O. contact
P5	Stop command. N.C. contact
P6	Common (-)
P7	Photocells type 1. N.C. contact
P8	Photocells type 2. N.C. contact
P9	Safety ribbons type 1 (fixed). N.C. contact
P10	Safety ribbons type 2 (mobile). N.C. contact
P11	Common (-)
P12 - P13	Power output 24 VAC for photocells and other accessories
P13 - P14	Photocell TX power supply for functional test
B1 - B2	Courtesy light
B3 - B4	Flashing light 230VAC 40W (**PD18**) 120VAC 40W (**PD18-120V**)
L	Power phase 230 VAC / 120VAC
N	Neutral 230 VAC / 120VAC
ADI	ADI Interface
MAINS	It shows that the control unit is power supplied
OVERLOAD	It shows that there is an overload on accessories power supply

Here the description of the connectors already connected on the left side of the control unit

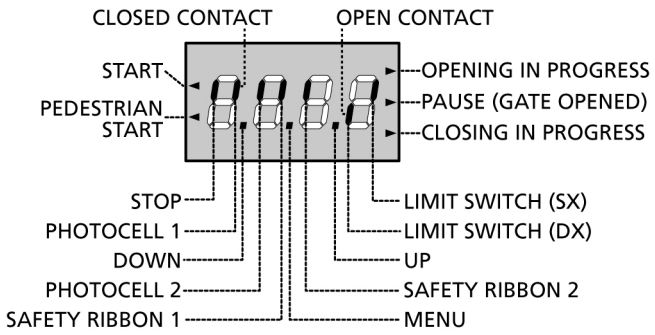
WARNING: Do not remove or invert the connectors

FC	Limit switch
SW	Release switch
ENCODER	Encoder (accessory code 162328)
M	Motor
C1	Running capacitor (BLACK SHEATH)
C2	Start off capacitor (RED SHEATH)

PLEASE NOTE: to install the encoder, please follow the instructions reported in the manual provided with the encoder carefully.


OVERLOAD
PROGRAMMING WHEEL
LIMIT SWITCH
ENCODER
M
C1
C2
RECEIVER
RECEIVER
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
P14
ANT
START
START P.
STOP
COM
PHOTO1
PHOTO2
EDGE1
EDGE2
COM
24V~ 10W
GND
24V~
(Photo / Edge Test)
Power supply 230V - F1 = 10A
Power supply 120V - F1 = 20A
F1
B1
B2
B3
B4
COURTESY LIGHT CONTACT
LAMP
MAINS
L
N
NEUTRAL
PHASE

When power is on, the control unit checks that display correctly operates by switching on all segments for 1.5 sec. ***8.8.8.8***. Firmware version, e.g. ***Pr I.5***, will be viewed in the following 1.5 sec. Panel will be viewed upon completion of this test.



The control panel represents the physical status of the terminal board contacts and of the program mode keys: if the upper vertical segment is on, the contact is closed; if the lower vertical segment is on, the contact is open (the above picture shows an instance where the inputs LIMIT SWITCH, FOTO 1, FOTO 2, COSTA 1, COSTA 2 and STOP have all been correctly connected).

The dots among the ciphers of the display show the status of the programming wheel: when pushing the wheel downwards the left dot is on (DOWN), when pushing the wheel upwards the right dot is on (UP), when the wheel is pressed the central dot is on (MENU).

The arrows on the left of the display show the state of the start inputs. The arrows light when the related input is closed.

The arrows on the display right side show the gate status:

- The highest arrow turns on when the gate is into its opening phase. If it blinks, it means that the opening has been caused by a safety device (border or obstacle detector).
- The central arrow shows that the gate is on pause. If it blinks, it means that the time countdown for the automatic closing has been activated.
- The lowest arrow blinks when the gate is into its closing phase. If it blinks, it means that the closing has been caused by a safety device (border or obstacle detector).

WHEEL

A special configuration menu – accessible and explorable by means of the small wheel on the right side of the display - allows programming the functions and times of the control unit .

WARNING: Outside the configuration menu, pushing the wheel upwards a START control is given, pushing it downwards (DOWN) a PEDESTRIAN START control is given.

To start the programming mode while the display is showing the control panel, keep the wheel pressed until the display shows **-PrG**.

Keeping the wheel pressed, it is possible to scroll the 4 main menus:

-PrG programming of the CONTROL UNIT
-Cnt counters
-APP Self-learning of TIMES AND FORCES
-dEF loading of default parameters

To enter one of the 4 main menus release the wheel when joined the interested menu.

To move inside the 4 main menus push the wheel downwards or upwards to scroll the different items; pressing the wheel, the actual value of the selected entry is visualized and, if necessary, can be changed.

QUICK CONFIGURATION

This paragraph concerns a quick procedure to set the control unit and set it at work immediately.

We recommend following these instructions, in order to check quickly the correct operation of control unit, motor and accessories, and then changing the configuration in case of any non-satisfactory parameter.

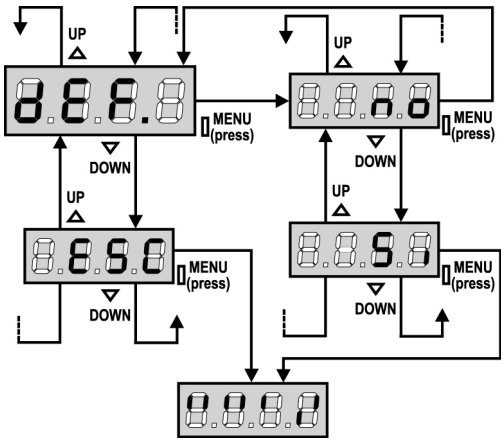
1. Call up the default configuration: see paragraph "LOADING OF DEFAULT PARAMETERS"
2. Set items **StoP**, **Fot1**, **Fot2**, **CoS1**, **CoS2** according to the safety devices installed on the gate.
3. Start the self-learning cycle: see paragraph "SELF-LEARNING OF WORKING TIMES "
4. check that the automation work properly and if necessary modify the configuration of the desired parameters. For the position of the item menus inside the main menu and for the options related to each item menu, refer to the paragraph "CONFIGURATION OF THE CONTROL UNIT".

PARAMETERS

If necessary, it is possible to restore all the parameters to their standard or default value (see table at the end)

⚠ **WARNING:** This procedure causes the loss of all the customized parameters, therefore it has been put outside the configuration menu, to reduce the possibility of executing it by mistake.

1. Keep the wheel pressed until the display shows **-dEF**
2. Release the wheel: the display shows **ESC** (press the wheel only if it is needed to exit this menu)
3. Push the wheel downwards: the display shows **dEF**
4. Press the wheel: the display shows **no**
5. Push the wheel downwards: the display shows **Si**
6. Press the wheel: all the parameters are rewritten with their default value and the display visualizes the control panel.

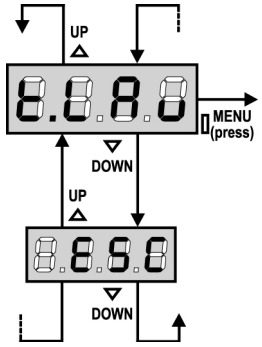


TIMES

This menu allows the automatic learning of the times necessary to open and close the gate.
During this phase, the control unit memorizes also the forces necessary to open and close the gate: these values will be activated by using the obstacle sensor.

⚠ **WARNING: before proceeding, check that the limit switches have been installed in the correct position.**

1. Keep the wheel pressed until the display visualizes **-APP**
2. Release the wheel: the display shows **ESC** (press the wheel only if it is needed to exit this menu)
3. Push the wheel downwards: the display shows **t.LAv**
4. Press the wheel to start the self-learning cycle of the working times:
   - the gate is activated in closure until reached the closure limit switch
   - the gate is activated in opening until reached the opening limit switch
   - the gate is activated in closure until reached the closure limit switch
   - Once ended the cycle, the control unit memorizes the obtained operating times, then the display visualizes the value suggested for the obstacle detector: if any operation is made for 20 seconds the control unit exits the programming phase without saving the suggested value.
   - To change the value, push the wheel downwards or upwards, then, to save the value, press the wheel: the display visualizes SEnS. Push the wheel downwards until the display visualizes FinE, then press the wheel, select the item Si and press again the wheel: the display visualizes the control panel



The PD18 control unit has two independent systems allowing detection of whether gate movement is impeded by obstacles. The first system is based on measurement of the current absorbed by the motor, and is available on all control units: an unexpected increase in current absorption indicates the presence of an obstacle. The second system is based on measurement of the rate of motor rotation and is only available if the encoder option is present: a decreased rotation rate indicates the presence of an obstacle.

PLEASE NOTE: the amperometric sensor is disabled by default and must be enabled by means of the **SenS** menu option; the rate sensor is automatically enabled by enabling the encoder option, and its sensitivity may be adjusted by means of the **S.EnC** menu option.

The detection of obstacles by means of the amperometric sensor only occurs if the gate is moving at normal speed. If slowing down has already started, the obstacle is not detected; this situation is not hazardous since, during slow motion operation, the motor pushes the obstacle with greatly reduced power.
Obstacle detection by means of the rate sensor is also conducted during slowing down: the alarm threshold is automatically lowered in order to allow movement at lower speed.
When a sensor trips, the gate is stopped and then sent in the opposite direction for 3 seconds, in order to free the obstacle. The subsequent Start command restarts movement in the previous direction.

PLEASE NOTE: if limit switches and slowing are disabled, when the amperometric sensor trips, the control unit interrupts the current opening or closing operation, without reversing the direction of motion.

CONTROL UNIT CONFIGURATION

The configuration menu **-PrG** consists in a list of configurable items; the display shows the selected item; pushing the wheel downwards the following item is selected, pushing the wheel upwards the previous item is selected. Pressing the wheel the current value of the selected item is displayed and it is possible to change it, if necessary.
The last item of the menu (**FinE**) allows to store the changes made and to revert to the normal working of the control unit.
In order not to loose the own configuration it is compulsory exiting through this menu item.

WARNING: If no operations are required for more then a minute, the control unit exits from the programming mode without saving the given information and changes will be lost.

Keeping the wheel pushed downwards the configuration menu items are quickly scrolled down until displayed the item **FinE**. Likewise, keeping the wheel pushed upwards the items are quickly scrolled down backwards until reached the item **t.AP**. Like this, the beginning or the end of the list can be reached quickly.

There are the following three kinds of menu items:
- Function menu
- Time menu
- Value menu

of available options. When you enter into a function menu, the current active option will be viewed; pushing the programming wheel upwards or downwards it is possible to scroll down the available options. The displayed option is started up pressing the wheel; after this, back to the configuration menu.

Time menu setup
Time menus allow setting a function duration. When you enter into a time menu, the current setup value will be viewed; the display mode depends on the current value:
- times being lower than one minute will be viewed as follows:

Every time the wheel is pressed upwards (UP) the set time increases of half a second; every time it's pressed downwards (DOWN) the time decreases of half a second.

- Times between 1 and 10 minutes will be viewed as follows:

Every time the wheel is pressed upwards (UP) the set time increases of 5 seconds; every time it's pressed downwards (DOWN) the time decreases of 5 seconds.

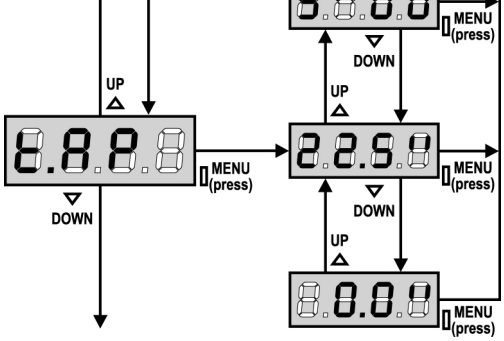
- Times being more than 10 minutes will be viewed as follows:

Every time the wheel is pressed upwards (UP) the set time increases of half a minute; every time it's pressed downwards (DOWN) the time decreases of half a minute.

Keeping the wheel upwards (UP) the time increases quickly, until reached its maximum. Likewise, keeping the wheel downwards (DOWN) the time decreases quickly, until reached **0.0"**
In some circumstances, setting the value to 0 means that the relevant function is disabled, in this case, '**no**' will appear instead of **0.0"**.
The displayed option is confirmed pressing the wheel (MENU); after this, back to the configuration menu.

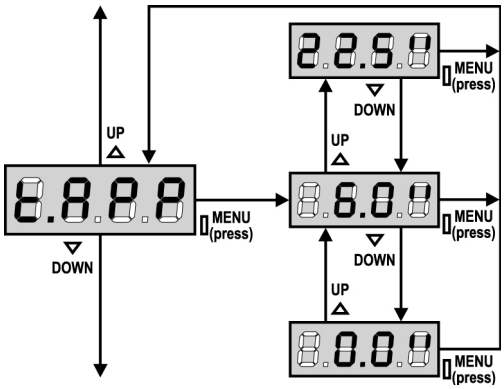
Value menu setup
Value menus are similar to time menus; however, the setup value can be any number. Keeping the wheel pressed upwards or downwards the value increases or decreases slowly.

In the following pages the procedure to configure all the parameters of the control unit **PD18** is shown step by step



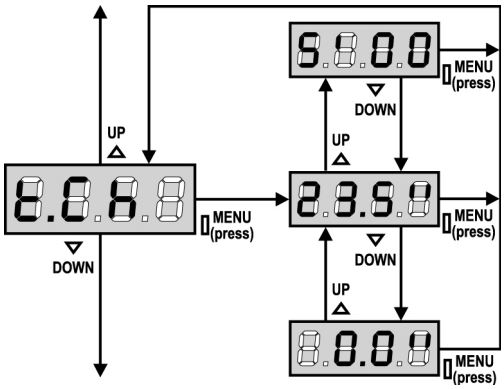
Opening time

The motor will be operated for the setup time in the opening phase; in case there is an obstacle or the end of stroke operates, the control unit can stop the opening phase before the relevant time expires.



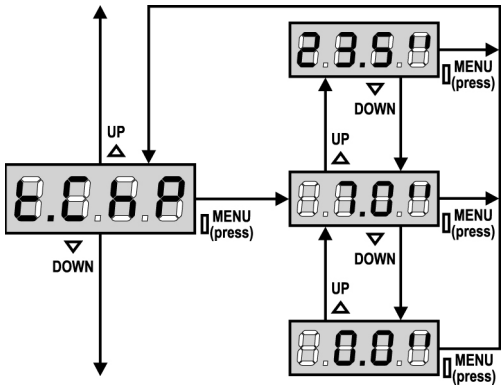
Partial opening time (pedestrian access)

When the control unit receives a Start Pedestrian command, it will open the gate only, for a shorter time. Max allowed time to be setup is **t.AP**.



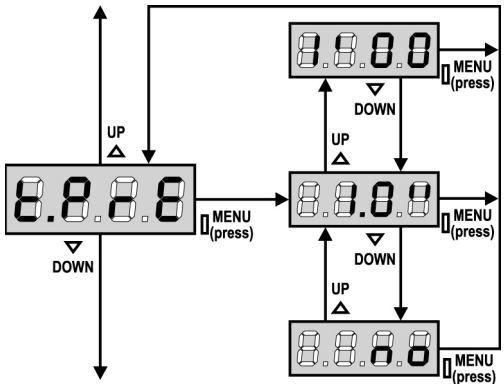
Closing time

The motor will be operated for the setup time in the closing phase; In case there is an obstacle or the end of stroke operates, the control unit can stop the opening phase before the relevant time expires. To avoid that the gate does not close completely, we recommend to setup a longer time than **t.AP** opening time.



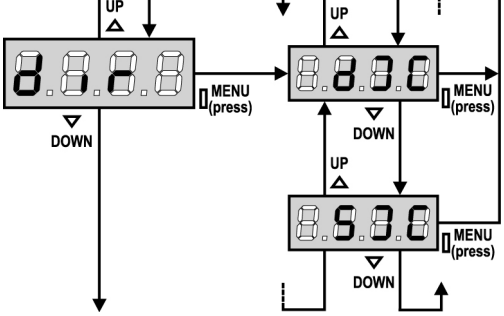
Partial closing time (pedestrian access)

When the control unit receives a Start Pedestrian command, it will use this time to close the gate. Max allowed time to be setup is **t.CH1**. To avoid that the door does not close completely, we recommend to setup a longer time than **t.APP** opening time.



Pre-blinking time

Before any gate movement, blinker will be activated for **t.PrE** time, to warn about the incoming motion.

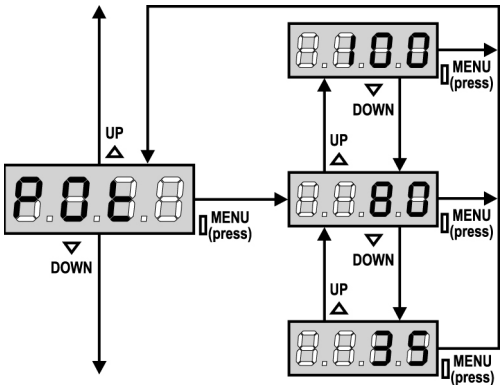


Gate Direction

This menu allows to invert the opening direction of the gate without swapping motor wires and limit switch ones.

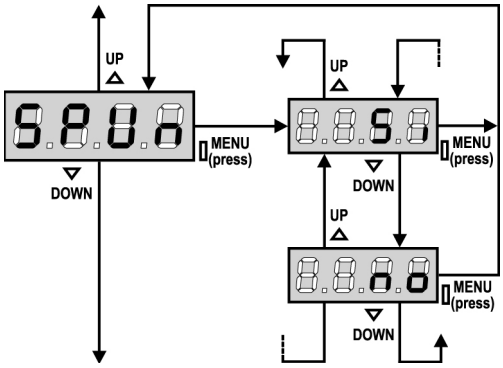
dx the gate opens rightwards
Sx the gate opens leftwards

WARNING: "opening direction of gate" means the direction you see from the inside.



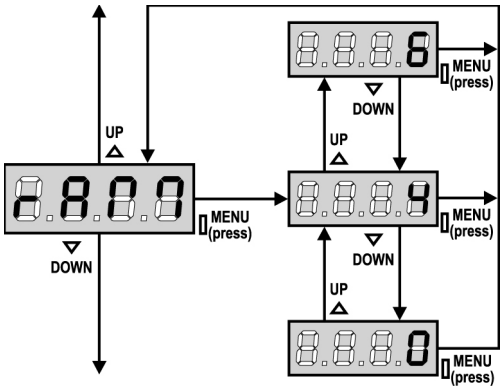
Motor power

This menu allows adjusting the motor power.
The displayed value is the percentage of max. motor power.



Start off

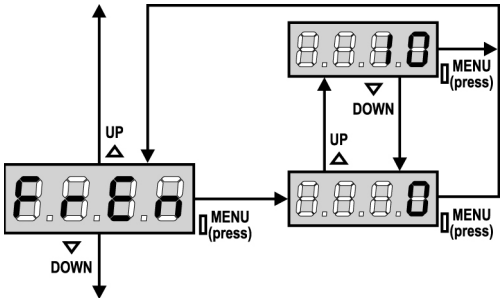
When the gate is standstill and it begins moving, the initial inertia must be faced, therefore, if your gate is quite heavy, it could not move.
In case the SPUNTO (pickup) function is activated, for the first 2 seconds of motion of each door, the control unit will ignore **Pot** value and it will give motor the maximum power command in order to overcome the gate inertia.
Besides, the second capacitor is inserted in order to increase the power of the motor.



Starting ramp

In order not to stress too much the motor, when the motion starts the power is gradually increased, until reached the set value or 100% if the take-off is enabled.
Higher is the set value, longer the length of time of the ramp, that is the time necessary to reach the value of nominal power.

When a sliding motor is used with a very heavy gate, because of the inertia, the gate does not block immediately when stopped and its motion can last for another 10 cm, compromising the working of the safety devices.

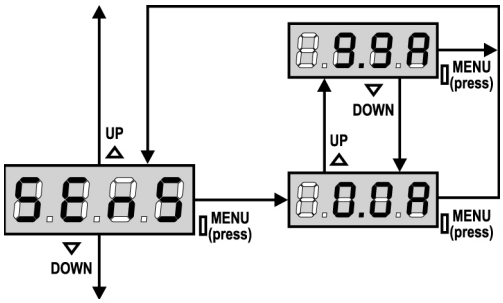


This menu allows enabling the brake function thanks to which it is possible to block immediately the gate after a control or the intervention of a safety device.

0 the brake function is never active
1÷10 the brake function is active. Le brake power is proportional to the set value

Following to an intervention of the safety edge or of the obstacle sensor or of a STOP control, the braking has always the maximum power, regardless of the set value (provided that higher than 0) to guarantee a rapid reversion.

WARNING: each braking entails a mechanical stress to the components of the motor. We suggest to set the minimum value with which there is a satisfactory stop distance.

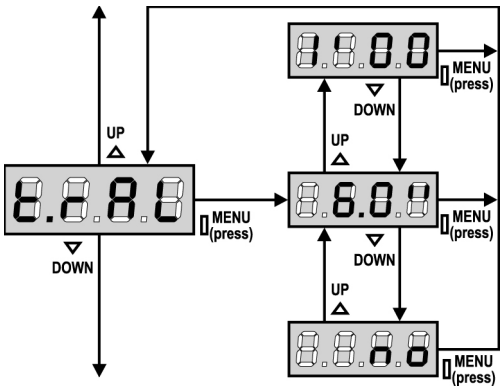


Enabling the obstacle sensor

This menu allows you to regulate the sensitivity of the obstacle sensor. When the power absorbed by the motor exceeds the level set, an alarm goes off in the power unit.

If **0.0A** is set, the function is disabled.

For information about its working, refer to the dedicated paragraph (page 40)

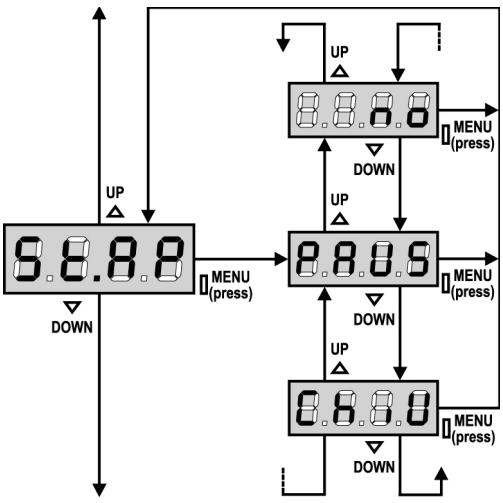


Slowing down time

In case this function is enabled, during the last seconds of motion, the control unit will give motor a reduced power command, to avoid a strong impact with the stop end. **1'00** is the max. allowed time.

WARNING:

- In case the self-learning function of working times is NOT used, we recommend disabling the slowing down function in order to measure both opening and closing times, and to enable it again once the setup has been carried out. The control unit will automatically consider the working time delay caused by the slowing down.
- If partial opening time t.APP is shorter than t.AP, there will be no slowing down during the pedestrian cycle opening.

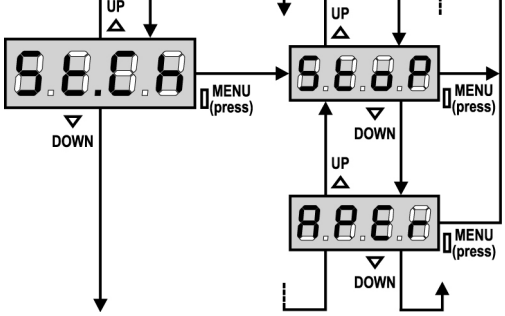


Start command during the opening phase

This menu allows fixing the control unit conduct in case it receives a Start command during the opening phase.

PAUS The gate stops and goes to pause
ChiU The gate immediately starts closing
no The gate go on with the opening phase (command is ignored)

Select option **PAUS**, to set up the "step-by-step" operation logic.
Select option '**no**', to set up the 'always open' operation logic.

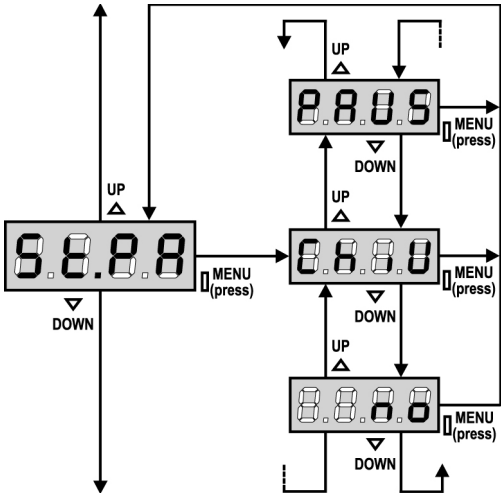


Start command during the closing phase

This menu allows fixing the control unit conduct in case it receives a Start command during the closing phase.

StoP The gate stops and its cycle is considered as finished
APEr The gate opens again

Select option **StoP**, to set up the "step-by-step" operation logic.
Select option **APEr**, to set up the 'always open' operation logic.



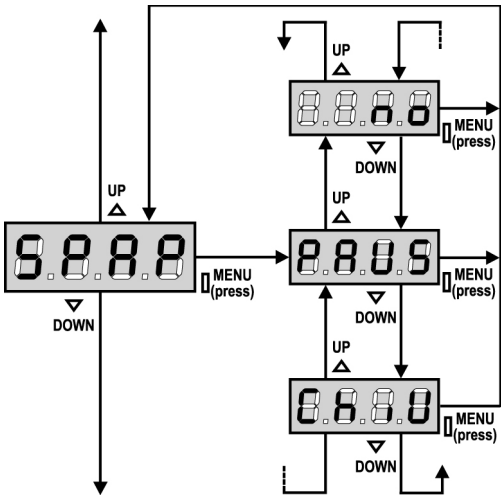
Start command during the pause

This menu allows fixing the control unit conduct in case it receives a Start command when the gate is open during its pause phase.

ChiU the gate starts closing
no command is ignored
PAUS the pause time is reloaded (Ch.AU)

Select option **ChiU**, to set up the "step-by-step" operation logic.
Select option '**no**', to set up the 'always open' operation logic.

Apart from selected option, the start command lets the gate close if it has been stopped by a stop command or if the automatic closing was not enabled.

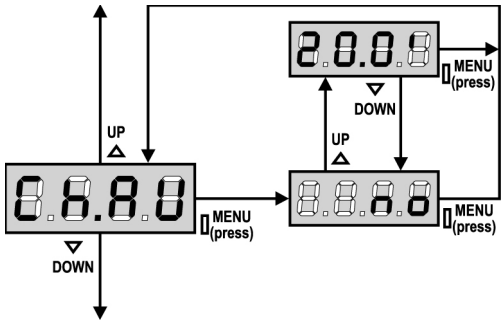


Pedestrian Start during the partial opening phase

This menu allows fixing the control unit conduct in case it receives a Pedestrian Start command during the partial opening phase.

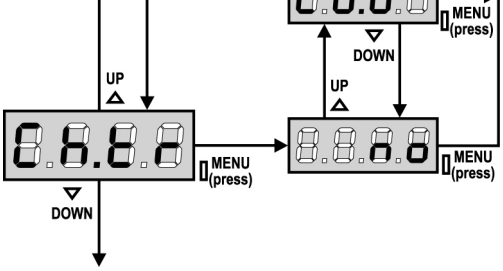
PAUS The gate stops and goes to pause
ChiU the gate immediately starts closing
no the gate goes on with the opening phase (command is ignored)

WARNING: a Start command in any phase of partial opening will cause the total opening; the Start Pedestrian command is always ignored during a total opening.

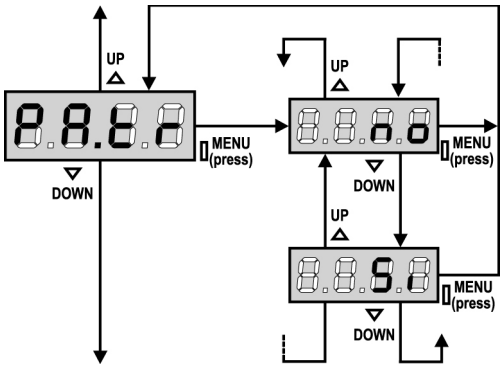


Automatic closing

During the automatic operation, the control unit will automatically close the gate when a set-up time expires.
The Start command, if enabled by **St.PA** menu, allows closing the gate before the set up time expires.
In semi-automatic operation, that is to say, if the automatic closing function is disabled by setting the value to zero ('**no**' will be displayed), the gate can be closed through the start command only: in this case, **St.PA** menu setup will be ignored.
If the control unit receives a Stop command when the gate is in pause, it will automatically pass to the semi-automatic operation.

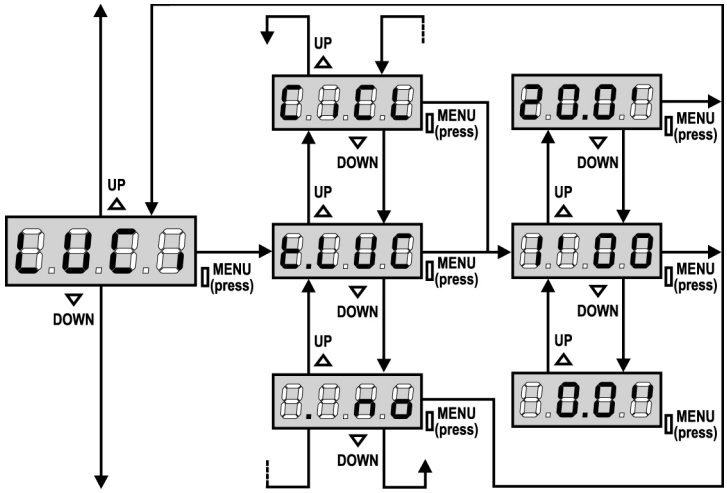


During the automatic operation, the pause count down starts from the set up value each time a photocell operates during the pause.
If the photocell operates during the opening time, this time will be immediately stored as pause time.
This function allows having a fast closing as soon as transit through the gate is completed, therefore, a time shorter than **CH.AU** is generally used.
Ch.AU will be used when '**no**' is set up.
As for semi-automatic operation, this function is not active.



Pause after transit

In order to let the gate open for the shortest possible time, it is possible to stop the gate once the passage before the photocells is detected. If the automatic working is enabled, the time of the pause is **Ch.tr**.
If the photocells are **type 1** and **type 2**, the gate enters the phase of pause only after the detections before both the photocells.



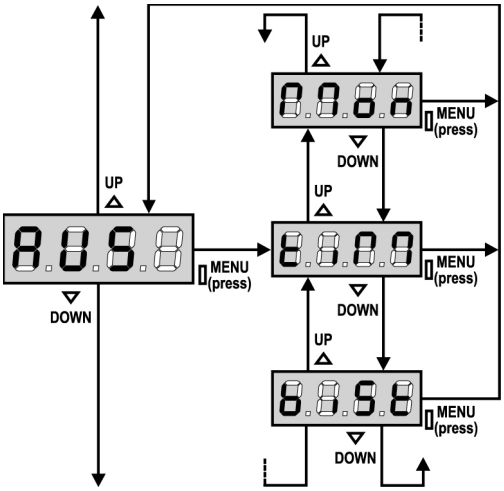
Courtesy lights

This menu allows setting the automatic operating of the courtesy lights during the opening cycle of the gate.

t.LUC the relay is enabled at the receiving of a control of start or pedestrian start; choosing this option, a submenu is entered – it allows to set the length of the activation of the relay from 0.0" to 20'0 (default 1'00). At the time limit, the relay is disabled.

no the relay of the courtesy lights is not automatically activated

CiCL the relay is activated during the motion of the gate; when the gate stops (closed or open) the relay is on all the time t.LUC long (set in the submenu t.LUC)
If the option LP.PA is activated, the relay is on also during the pause time



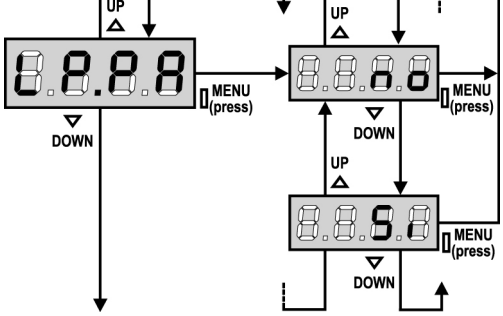
Auxiliary channel

This menu allows setting the operating of the relay of the lighting of the courtesy lights by means of a remote control stored on the channel 4 of the receiver.

tiM the relay is activated receiving the transmission of the remote control; it is disabled after the time set for the parameter t.LUC inside the menu LUCi

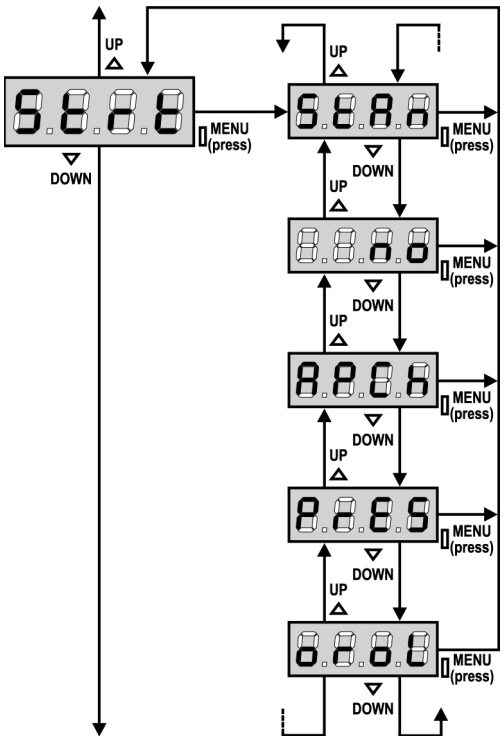
Mon the relay is activated for all the length of the transmission of the remote control. Releasing the key of the remote control the relay is deactivated

biSt the status of the relay changes at each transmission of the remote control



Blinker during pause time

Blinker usually operates during the gate motion only; however, if this function is enabled, blinker will be on during the pause time too (gate open with automatic closure activated).



Start input function

This menu allows selecting input operation modes (see paragraph "Activation inputs"):

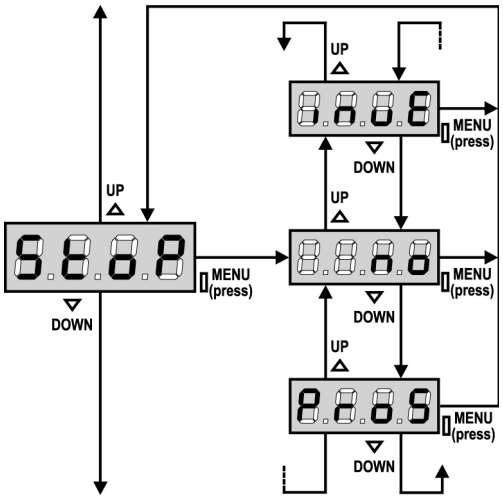
StAn Start and Pedestrian Start input standard operation, according to menu setups.

no Start inputs from terminal board are disabled. Radio inputs operate in **StAn** mode.

AP.CH Start impulse always controls the opening phase, Pedestrian Start always controls the closing phase.

PrES Manned operation; the gate will open as long as the Start input stays closed and it will close as long as Pedestrian Start stays closed.

oroL Timer-operation; the gate stays open while the Start input or Pedestrian Start input is closed; as soon as the contact opens, the pause count down will start.

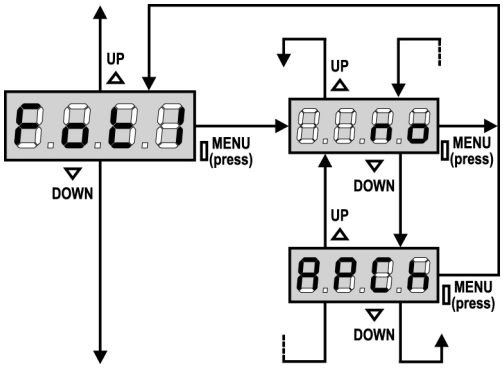


Stop Input

This menu permits to select the functions associated to the command of STOP.

no the input STOP is not available
ProS the input STOP stops the gate: pressing the command START the gate continues the motion
invE the command STOP stops the gate: at the next START the gate starts moving in the opposite direction.

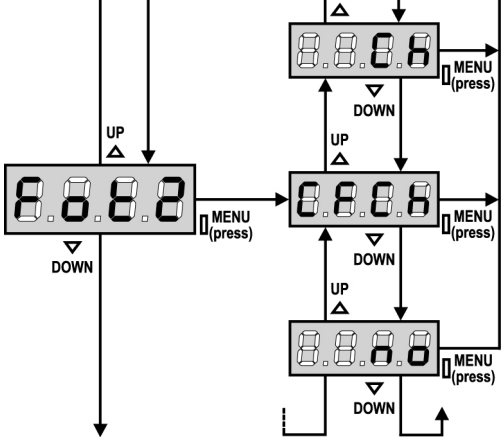
NOTE: during the pause, the STOP command will stop the pause time count, the next START command will always close the gate.



Photocell 1 input

This menu allows enabling the input for type 1 photocells, that is to say, photocells active both during the opening and closing phase (see paragraph "Installation").

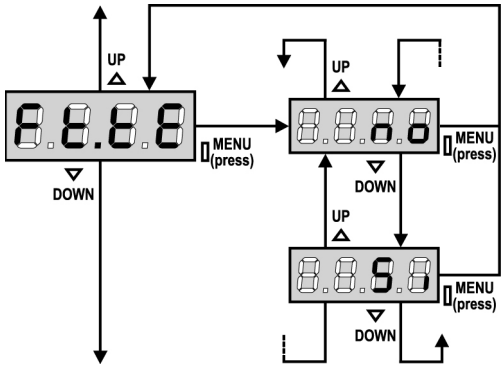
no input disabled (ignored by the control unit). No jumper with the common is required.
AP.CH input enabled.



Photocell 2 input

This menu allows enabling the input for type 2 photocells, that is to say, photocells non active during the opening phase (see paragraph "Installation").

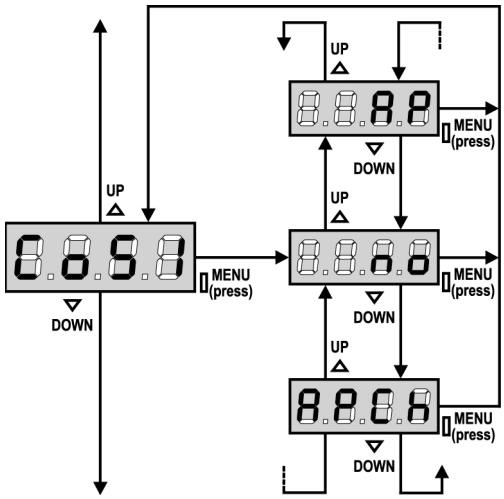
no input disabled (ignored by the control unit).
No jumper with the common is required.
CF.CH input enabled even at standstill gate too: the opening movement does not start if photocell is interrupted.
CH input enabled for the closing phase only
Warning: if you select this option, you must disable photocell test.



Test of the photocells

In order to achieve a safer operation for the user, the unit performs a photocells operational test, before a normal working cycle.
If no operational faults are found, the gate starts moving.
Otherwise, it will stand still and the flashing light will stay onfor 5 sec.
The whole test cycle lasts less than one second

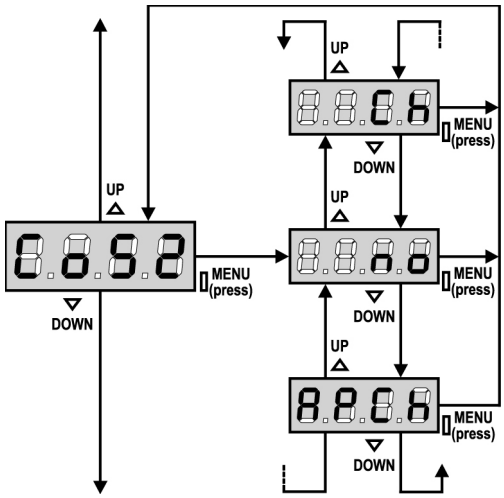
⚠ **WARNING: V2 suggests to keep activated the test of the photocells in order to grant a higher safety of the system.**



Safety ribbon 1 input

This menu allows enabling the input for type 1 safety ribbon, that is to say, fixed ribbons (see paragraph "Installation").

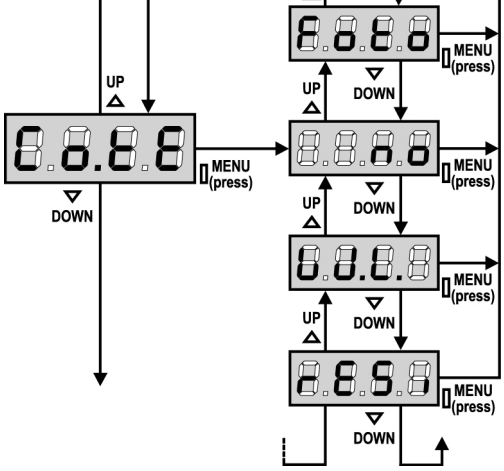
no input disabled (ignored by the control unit).
AP Input enabled during the opening and disabled during the closure
APCH Input enabled in opening and closure



Safety ribbon 2 input

This menu allows enabling the input for type 2 safety ribbon, that is to say mobile ribbons (see paragraph "Installation").

no input disabled (ignored by the control unit).
No jumper with the common is required.
Ch Input enabled during closure and disabled during opening
APCH Input enabled in opening and closure

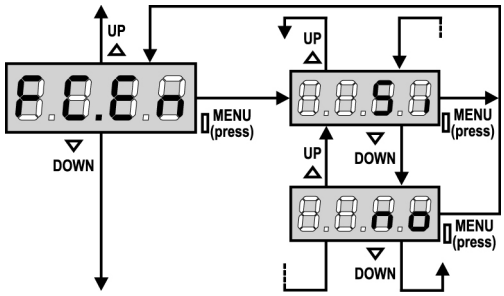


Test of the safety edges

This menu allows setting the method of control of the safety edges working.

no Test disabled
Foto Test enabled for optical safety edges
rESi Test enabled for conductive rubber safety edges
W.L. Wireless edge system test enabled

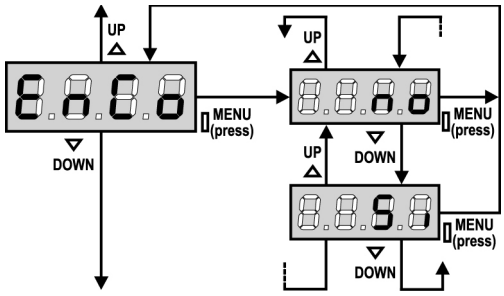
WARNING: V2 suggests to keep activated the test of the photocells in order to grant a higher safety of the system.



End of Stroke Inputs

PD18 control unit allows connecting magnetic limit switch which are activated by the door motion and showing to the control unit that each door reached its position of complete opening or closing.

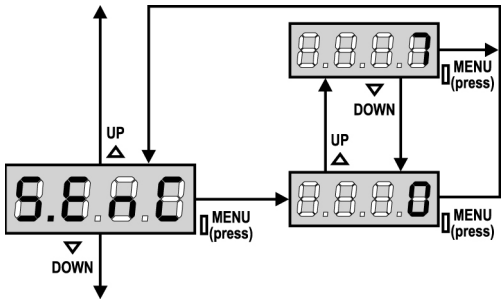
Si end of stroke inputs are enabled
no end of stroke inputs are disabled



Encoder Input

The PD18 control unit allows connection of the encoder indicating the position of the gate to the control unit.

Si encoder input enabled
no encoder input not enabled

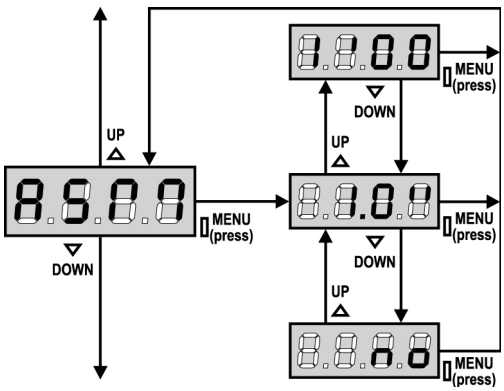


Encoder sensitivity

This menu allows the sensitivity of the rate sensor to be adjusted.
A decreased rate below the set threshold indicates the presence of an obstacle.

If set to 0 the obstacle is only detected when the gate is stopped.

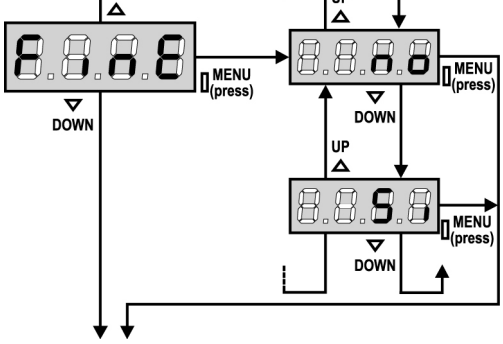
For sensor operation, please refer to the dedicated section "OBSTACLE SENSOR" (page 40)



Anti-skid

When an opening or closing operation is interrupted by a command or for the intervention of the photocell, the set-up time for the opposite movement would be excessive, so the control unit operates the motors only for the time necessary to recover the actually covered journey. This could be not sufficient, particularly in the case of very heavy gates, as because of the inertia at the inversion moment the gate runs an extra space in the previous direction that the control unit is not able to take into account.
If after an inversion the gate does not return exactly to the starting position, it is possible to set an anti-skid time that is added to the time calculated by the control unit in order to recover the inertia.

WARNING: if the function ASM is disabled, the reverse manoeuvre lasts until the gate reaches the limit switch.



End of Programming

This menu allows to finish the programming (both default and personalized) saving the modified data into memory.

no further corrections to carry out: do not quit the programming.
Si end of programming.

THE INSERTED DATA HAVE BEEN MEMORIZED: THE CONTROL UNIT IS READY TO BE USED.

READING OF CYCLE COUNTER

PD18 control unit counts the completed opening cycles of the gate and, if requested, it shows that service is required after a fixed number of cycles.

There are two counters available:

- A totalizing counter for completed opening cycles that cannot be zeroed (option "**tot**" of item "**Cont**")
- A downward counter for the number of cycles before the next request for service (option "**SErv**" of item "**Cont**"). This counter can be programmed according to the desired value.

The side scheme shows how to read the totalizing counter, how to read the number of cycles before the next service is required as well as how to program the number of cycles before the next request for service (as for the example shown, the control unit completed no. 12451 cycles and there are no. 1322 cycles before the next service request.

Area 1 is the reading of the total number of completed cycles; through Up and Down keys, you can alternate the display of thousands or units.

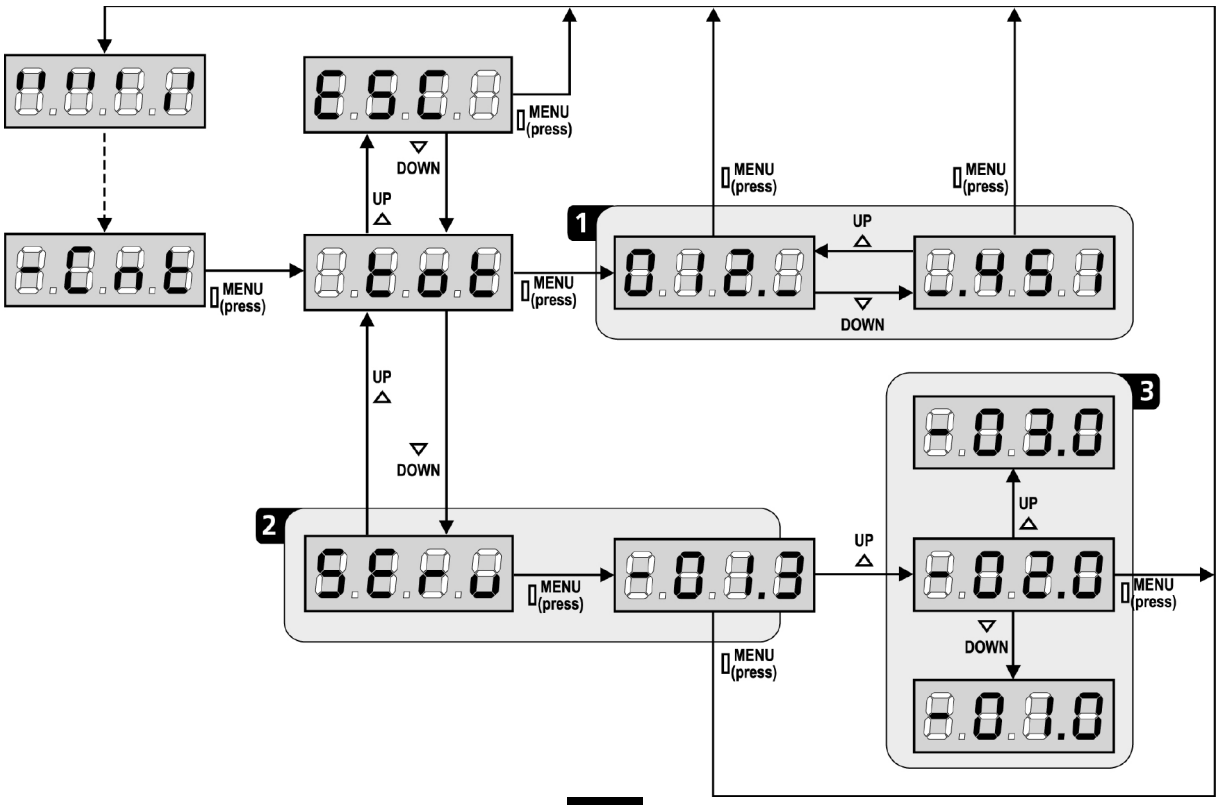
Area 2 is the reading of the number of cycles before the next request for service: its value is rounded down to the hundreds.

Area 3 is the setup of this latter counter; if you press once UP or DOWN key, the current counter value will be rounded up or down to thousands, any following pressure will have the setup be increased or decreased of 1000 units. The previous displayed count will get lost.

Signal of service required

As soon as the counter of cycles before the next request for service is zero, the control unit shows the request for service through an additional 5-second pre-blinking.

⚠ **WARNING:** service operations shall be carried out by qualified staff only. This signal will be repeated at each opening cycle, until the installer enters into the counter reading and setup menu, and possibly programs the number of cycles after which the next service will be requested.
In case no new value is setup (that is to say that the counter value is left at zero), the signalling function for the service request will be disabled and no signal will be repeated anymore.



DISPLAY	DATA	DESCRIPTION	DEFAULT	MEMO DATA
t.AP	**0.0" ÷ 5.0'**	Gate opening time	**22.5"**	
t.APP	**0.0" ÷ t.AP**	Opening time of pedestrian gate	**6.0"**	
t.Ch	**0.0" ÷ 5.0'**	Gate closing time	**23.5"**	
t.ChP	**0.0" ÷ t.Ch**	Closing time of pedestrian gate	**7.0"**	
t.PrE	**0.5" ÷ 1.0'**	Pre-flashing time	**1.0"**	
	no	- Pre-flashing disabled (it corresponds to 0)		
dir		Gate direction (the direction you see from the inside)	**dx**	
	dx	- The gate opens rightwards		
	Sx	- The gate opens leftwards		
Pot	**35 ÷ 100%**	Motor power	**80**	
SPUn	**Si/no**	Start off	**Si**	
rAM	**0 ÷ 6**	Starting ramp	**4**	
FrEn	**0 ÷ 10**	Brake function	**0**	
SEnS	**0.0A ÷ 9.9A**	Obstacle sensor	**0.0A**	
t.raL	**0.5" ÷ 1.0'**	Slow down time	**6.0"**	
	no	- Slow down disabled		
St.AP		Start in opening	**PAUS**	
	no	- Start command is not available		
	ChiU	- Command close gate		
	PAUS	- Stop the gate and goes in pause		
St.Ch		Start in closing	**StoP**	
	Stop	- Start command stop the gate		
	APEr	- Start command open the gate		
St.PA		Start in pause	**ChiU**	
	no	- Start command is not available		
	ChiU	- Start command closes the gate		
	PAUS	- The pause time is reloaded (Ch.AU)		
SPAP		Pedestrian in opening	**PAUS**	
	no	- Pedestrian start command is not available		
	ChiU	- Pedestrian start command closes the gate		
	PAUS	- Gate goes in pause		
Ch.AU		Automatic closing	**no**	
	no	- The gate closes after the setup time)		
	0.5"÷ 20.0'	- The automatic closing is not active (it corresponds to 0)		
Ch.tr		Closing after passage	**no**	
	no	- Closing after passage disabled		
	0.5"÷ 20.0'	- Gate stop for a time to be set between 0.5" to 20'		
PA.tr	**no/Si**	Pause after transit	**no**	
LUCi		Courtesy lights	**1'00**	
	t.LUC	- Time working (from 0 to 20')		
	no	- Function disabled		
	CiCL	- On all the cycle long		

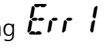
DISPLAY	DATA	DESCRIPTION	DEFAULT	MEMO DATA
AUS		Auxiliary channel		
	tiM	- Time working	**1'00**	
	biSt	- Bistable working		
	Mon	- Monostable working		
LP.PA	**no/Si**	Flashlight in pause	**no**	
St.rt		Operation modes	**StAn**	
	StAn	- Start inputs from terminal board are disabled		
	no	- Standard operation		
	AP.CH	- Separated opening and closing commands		
	PrES	- Manned operation		
	oroL	- Timer operation		
StoP		STOP input	**no**	
	no	- STOP input not available		
	invE	- STOP command stops the gate: START command starts moving in the opposite direction		
	ProS	- STOP command stops the gate: pressing the START command gate continues the motion		
Fot 1		PHOTO 1 input	**no**	
	APCh	- Input is available for the connection of the photocell		
	no	- Not available		
Fot 2		PHOTO 2 input	**CFCh**	
	CFCh	- Photocell is active in closing and also when the gate is still		
	no	- Not available		
	Ch	- Photocell is active during the closing		
Ft.tE	**no/Si**	Test of operating of the photocells:	**no**	
CoS1		Input safety edge 1 (fix edge)	**no**	
	no	- Non-active input		
	AP	- Input active only in opening		
	APCH	- Input active both in opening and closure		
CoS2		Input safety edge 2 (mobile edge)	**no**	
	no	- Non-active input		
	CH	- Input active only in closure		
	APCH	- Input active both in opening and closure		
Co.tE		Test of operating of the safety edges:	**no**	
	no	- Test disabled		
	Foto	- Test enabled for optical type safety edges		
	rESi	- Test enabled for resistive rubber safety edges		
	W.L.	- Test enabled for wireless edge system		
FC.En	**no/Si**	End of stroke inputs	**Si**	
EnCo	**no/Si**	Encoder Input	**no**	
S.EnC	**0 ÷ 7**	Encoder sensitivity	**0**	
ASM	**0.5" ÷ 1.0'**	Anti-skid function	**1.0"**	
	no	- Function disabled		
FinE		End of programming	**no**	
	no	- It does not exit from the program menu		
	Si	- It exits from the program menu by storing the setup parameters		

This paragraph shows some possible operation defects, along with their cause and applicable remedy.

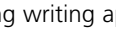
MAINS led does not switch on
It means that there is no voltage on **PD18** control unit card.
1. Before acting on the control unit, disconnect through the disconnecting switch on the power line and remove the power supply terminal.
2. Be sure that there is no voltage break upstream the control unit.
3. Check whether the fuse is burnt-out, if so replace it with same value.

OVERLOAD led is on
It means that there is an overload on accessory power supply.
1. Remove the extractable part containing terminals **P1** to **P14**. OVERLOAD led will switch off.
2. Remove the overload cause.
3. Reinsert the terminal board extractable part and check that this led is not on again.

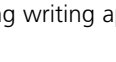
Too long pre-blinking
When a Start command is given and the blinker switches on immediately but the gate is late in opening, it means that the setup cycle count down expired and the control unit shows that service is required.

Error 1
The following writing appears on display when you exit from programming 

It means that changed data could not be stored.
This kind of defect has no remedy and the control unit must be sent to V2 S.p.A. for repair.

Error 2
When a Start command is given and the gate does not open and the following writing appears on display 

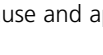
It means that triac test failed.
Before sending the control unit to V2 S.p.A. for repair, be sure that motors have been properly connected.

Error 3
When a Start command is given and the gate does not open and the following writing appears on display 

It means that the photocell test failed.
1. Be sure that no obstacle interrupted the photocell beam when the Start command was given.
2. Be sure that photocells, as enabled by their relevant menus, have been installed actually.
3. If you have photocells 2, be sure that **Fot2** menu item is on **CF.CH**.
4. Be sure that photocells are powered and working; when you interrupt their beam, you should hear the relay tripping.

Error 4
When a Start command is given and the gate does not open (or does a partial opening) and the following writing appears on display

It means that the end of stroke is damaged or that the wiring that connects the sensor to the control unit is broken.
Change the end of stroke sensor or the broken wiring.
If the error persists send the control unit to V2 S.p.A. for repair.

display shows 

It means that the test of the safety edges failed.
Check that the menu of the test of safety edges (CO.tE) have been set correctly.
Check that the safety edges enabled from the menu are installed.

Error 6
When given a start control the gate does not open and the display shows

It means that the survey circuit of the current is not working. The control unit has to be sent to V2 for its repair.

Error 7
When given a start control the gate does not open and the display shows

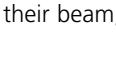
This indicates an error in the encoders' operation.
There are two possible causes:
1. With the encoders enabled, once a START command is received: this means that the encoder have not been initialized. For the encoder to operate correctly, the self-learning procedure must be performed.
2. With the encoder enabled and initialized, a few seconds after movement begins: this means that an encoder is not correctly operating. Encoder malfunction or broken connection.

Error 8
When executing a self-learning function the control is refused and the display shows

It means that the setting of the control unit is not compatible with the requested function. In order to execute the self-learning it is necessary that the Start inputs are enabled in standard mode; to survey the currents of the motor it is also necessary that the length of the opening and closure are at least of 7,5 second.

Errore 9
When you are trying to change the control unit setups and the following writing appears on display

It means that programming was locked by means of the programming lock key (code CL1).
To change the settings it is necessary to insert in the connector of the ADI interface the same key used to activate the programming lock.

Error 12
When a Start command is given and the gate does not open (or does a partial opening) and the following writing appears on display 

This means the motor overheating protection has tripped.
The system will start working again as soon as the motor has cooled.